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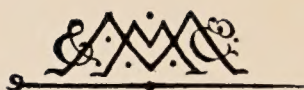
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INDUSTRY
AND
POLITICS

By
Sir Alfred
Mond

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Alfred M. Mond

INDUSTRY AND POLITICS

BY

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SIR ALFRED MOND, BART., LL.D., M.P.

MACMILLAN AND CO., LIMITED
ST. MARTIN'S STREET, LONDON

1928

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First Edition 1927

Reprinted 1928

PRINTED IN GREAT BRITAIN

BY R. & R. CLARK, LIMITED, EDINBURGH

PREFACE

THE purpose and scope of this volume is dealt with in the Introduction, but there is one duty I must do. I especially want to thank Mr. Conway Davies for the great assistance he has rendered me in the preparation of this volume, in the collection of material, and in seeing the book through the press.

A. M.

September 1927.

NOTE

THE section headed "Socialism : What it really is", is the text of a speech delivered in the House of Commons on 20th March 1923, while "Why Socialism must Fail" is reprinted from *The London Magazine* of November 1923. "The Application of Science to Industry" was an address given at Swansea University College on 10th July 1923.

"Modern Industrial Problems" and "Trade, Currency, Industry and Unemployment" are based on speeches delivered in August and October 1925 respectively, while "Co-partnership and Profit-sharing" is based on addresses given to meetings of the Labour Co-partnership Association in January and April 1926. The section dealing with "The Land Question" is based on an address given to the Liberal Association of the Carmarthen Division on 6th January 1926. "Why I joined the Conservatives" is reprinted from *The Saturday Review* of 30th January 1926.

"The Future of the Gas Industry" formed the Presidential Address to the Society of British Gas Industries on 23rd June 1926, and "Fuel Technology" the Presidential Address to the Institution of Fuel Technology on 7th December 1926.

"The Rationalisation of Industry" is based on an address given to the Leeds Luncheon Club on 17th February 1927; "National Savings, Profits and Double Taxation" on an address to the Institute of Chartered Accountants on 23rd March 1927; and "International Cartels" on an address to the Royal Institute of International Affairs on 10th May 1927.

"Canada and Empire Policy" is the text of a speech delivered at the Canada Club, Toronto, on 17th September 1926, and "The British Empire as an Economic Unit" is based on an address to the Unionist Members at the House of Commons on 3rd May 1927.

The other sections have been specially prepared for this volume.

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INTRODUCTION

I HAVE been encouraged to put forward in a collected form a series of speeches and papers on various phases of economic, industrial, political and social problems which I have delivered or prepared on various occasions, by the fact that I am frequently requested to publish one or the other of the articles. As they have been composed in such leisure time as I could spare from a very busy political and business life, I cannot claim for them that they are either as complete or consecutive, either in form or expression, as I should have wished if I had more time to devote to their elaboration. But because many of them embody a good deal of thought and research on a number of the important problems of to-day on which I think my personal experience entitles me to speak with a considerable measure of authority, it has appeared to me preferable to issue them in their present form rather than delay their publication to an indefinite period.

The whole range of the subjects is concerned with economic phenomena of the last few years and the present time, industry and its future, the economic trend of the present day, remedies for social ills which are generally acknowledged, the solution of which presents most difficult problems, and examination of the fallacies of the socialist ideals, and attempts to put forward a programme of practical reform with a connecting link of thought running through the various chapters.

Post-war Britain was a Crusoe stranded on a desert island. The wealth and financial position which had been Britain's before the war had been partly dissipated. The old political problems no longer possessed their potency. The old material problems had been intensified in their rigour. Productive industry had suffered an entire disloca-

tion. Industry had for four years been diverted into essentially non-productive channels. The economic consequences of the war, with all the terrific wastage of national wealth involved, had to be faced by a nation without its old party shibboleths, without its old economic text-books, without its old lucrative markets. The old cries and calls were discordant in the new atmosphere.

Time was an essential factor in the process of reconstruction, but no one fully realised what was to be the inevitable duration of the period of transition. Gradually, through a series of industrial defeats, succeeding military victory, the main lines of advance towards peace and progress have indicated themselves. In industrial relations for many years a continuous series of sporadic strikes and permanent industrial unrest eventually culminated in a general strike, succeeded by the longest and most devastating industrial dispute in the history of the country—the protracted coal stoppage.

But out of evil has come forth some amount of good. For the insane folly of continuous industrial warfare has become apparent to all except those who are avowed subverters of the constitution and of the existing social order. For at the present time a great deal of common consent is becoming manifest on industrial questions. Progressive industrialists and thoughtful leaders of labour both realise that what is wanted is a practical means of eliminating industrial disputes, of improving the economic position and the status of those engaged in industry, and of creating an atmosphere of greater confidence and comradeship between the co-partners in industry. The chasing of the elusive rainbows of socialist theories, or the submitting to the destructive and ruinous doctrines of communism, are not the paths along which social progress and prosperity are to be achieved.

There can be no doubt that you cannot build a sound industrial system or continue to fight the industrial battles of the world, unless the captains of industry know they have behind them a willing and contented army. The uncertainty and paralysis caused by a stoppage of the character and nature of the late coal dispute spreads throughout the whole of the industrial field in a manner little understood,

except by those who are in close daily contact with industrial affairs. It is not merely the loss of money—serious as this may be—but the disorganisation of programmes for the extension of works, and the carrying out of improvements, and the impossibility of accepting contracts which, once lost, cannot be regained. When they are placed in other countries, they are often gone for good. Foreign rivals obtain the great advantage of introducing their goods into markets where previously they have found it difficult or impossible to get a foothold. But it is not merely a great strike or stoppage of production which paralyses ; in many industries it is the unfortunate continuous petty friction and harassing effects of antiquated trade customs which make it difficult to secure mediation between different unions, and which make it impossible for that full efficiency and development to be achieved which would be to the mutual benefit of all engaged in industry.

For this very reason I urge most strongly and steadfastly the introduction of a new psychology into industry, the creation of an Industrial League of Peace, with a definite programme, definite policy and definite sanctions. My own personal experience with workers goes back now for more than half a century, and in an executive capacity I have been in contact for more than a generation. In the industry in which I am mainly interested we have succeeded in avoiding for a period of over fifty years any serious industrial dispute. This has been largely due to a liberal, far-seeing policy, which did not consist in waiting for claims to be made and then yielding to them reluctantly, but in foreseeing reasonable demands and in granting them even before they were asked. It has been due to a contact, maintained from one generation to another, with a friendly human spirit between those engaged in various capacities in the industries concerned.

This problem of maintaining relations and contact of a human character has become infinitely more difficult owing to larger size organisations, and it requires the earnest attention of all those who are placed at the head of large industrial concerns. For there are definite points upon which decisions should be taken and minds should be made

up. The strike is a costly, obsolete, barbaric method which produces a vast number of devastated industrial areas for a very small achievement. It is like a great war in which, as proved by the conflict of 1914-1918 and most others, the sacrifices of victor and vanquished far exceed any benefit that either can obtain. Just as nations endeavoured at the end of the last bitter struggle to find some relief from the sad experiences of the past by the creation of the League of Nations, so we ought to endeavour to escape the vicious circle of lock-outs and strikes by the creation of a League of Industrial Peace based on arbitration and justice, and not on force.

I once said that the best answer to socialism is to make every man a capitalist, and this process is being extended day by day throughout the ranks of all classes. A more definite and determined policy should be adopted to enable all those engaged in any industrial concern to become shareholders, and in that way complete co-partners in the business in which they are interested. On my last visit to America, in my conversations with a number of leading American industrialists I found this idea has rapidly gained ground, and in one very large concern something like 25 per cent of the entire capital was held by the staff and the workmen. A similar policy was started by Brunner, Mond & Company, Limited, several years ago, and the results so far have been entirely satisfactory.

But, to my mind, in the future shares of this character should be offered without limitation or restriction. No attempt towards too much paternalism should be dictated by an exaggerated fear that those engaged in industry may also become controllers of general policy. Management and workers thus become interested in the efficiency of their business, and schemes for reductions in cost or suggestions for improvements become adequately remunerated. A scheme by which all those engaged in an industry become participants in its prosperity forms part of the new stimulus towards industrial co-operation which is urgently needed.

There are difficulties in many cases. The workman of to-day wishes to know, and is entitled to know, more about the general position of his industry and the results which

are being obtained by those in control and on which ultimately his own prosperity depends. There is no doubt that a considerable amount of the dissatisfaction in the coal industry has been due to a want of confidence in the ability of those who are directing the affairs of that industry. As the miners are directly, through the wages ascertainment scheme in operation, interested in the results achieved both by producers and salesmen, they cannot be blamed if they wish to know whether the industry, is giving the best results under the economic conditions under which it works. Whilst every practical man fully realises the difficulties of exposing confidential information, possibly of great importance to competitors, to large numbers of people, still intermediate methods should be found within which the legitimate desire for knowledge can be satisfied.

The elaboration of such policies is naturally capable of infinite variety of treatment. They cannot be stereotyped in any rigid formula. The details often seem to present insuperable difficulty, but with the intention to overcome them they can be overcome. It is the will on all sides which is important—the will to endeavour to reach a position in which greater security and more stable employment are the corollaries of the recognition of the benefits of co-work and co-interest. If it is made clear that these problems are occupying the minds of the heads of industry quite as much as the other great problems with which they have to deal in their daily work, the British workman, who, on the whole, is extremely reasonable and fair-minded, will, I have no doubt, respond and play his full part in the new industrial evolution.

I have thought that it would be of interest to go back to a previous epoch in British history in which some parallel can be drawn to economic conditions which have affected this country since the Great War. On investigation of the past, and of the common causes of the economic conditions of the present, the phenomena which appeared so menacing and difficult, and which are so different from what we were accustomed to in our pre-war lives, receive a new focus. For on examination these are shown to be recurring phenomena, not attributable to any special state of society at any given time, but following as a logical consequence from economic

results which succeed almost automatically in given circumstances. For instance, the exhaustion of a country after a prolonged war which has absorbed the energies of an entire nation, denudated it to a considerable degree of its most virile manhood, has produced a feeling of reaction, of lassitude and disappointment. It has burdened the country with heavy debt and heavy taxation, led to unemployment and distress—the result common to all great wars throughout history.

Therefore, when the reaction occurred again after the cessation of the war in 1918, the same controversies arose about the proper methods of procedure, both on finance and economic problems, which were discussed nearly a century ago, following the Napoleonic era. One need merely take the problem of unemployment and its attempted solutions, the question of national debt, and the question of taxation to find an extraordinary parallelism in the two periods, in the views of the impossibility of recovery from the intolerable load of debt, and the crushing burden of taxation, which we have had in the last nine years. These questions were still more resolutely, and probably more rightly emphasised at the close of the Napoleonic era, but unfortunately little appears to have been learnt from the recovery achieved. For after the Napoleonic wars there followed not merely a recovery to the standard of the past but an advance to the progress and the great industrial development of the future, a progress and development which was entirely unexpected.

It has already become apparent that the real solution to the financial difficulty of the country was not as has been assumed, and is still assumed in many quarters, the overburdening of a nation striving towards recovery with an exaggerated and entirely harmful amount of taxation. The short-sighted view of the necessity, during such a period, to reduce the debt burden incurred with a violent rapidity during a short period of crisis and stress, is also becoming increasingly discounted, and the advantages of a policy designed to create as rapidly as possible a greater prosperity and thereby increase the wealth of the country, are becoming increasingly appreciated. The burden of debt which is only relative, like all debt, to the assets on which it is based,

is the really important matter. Again, the drastic, even brutal return to our financial policy since the war is laudable, but the misdirected zeal to recover our gold basis at the earliest possible moment, rather than the regulation of such policies to keep in step with the industrial position, has been the most fundamental cause of the industrial and political troubles in which we are involved.

There has never been that very necessary general view of the whole situation in these matters. There has been an absence of co-ordination in one whole in the examination of our problems—political, social, industrial and financial. While, on the one hand, schemes endeavouring to deal with unemployment have been put forward by successive Governments and vast sums have been poured out to alleviate the position of those unemployed, it has never apparently been realised that on the other hand some Governments have created the very unemployment they were endeavouring to alleviate, and were intensifying that industrial depression which was itself the result of the financial policy which was being pursued.

In this direction the recovery of Britain after the Napoleonic war was not due to financial expedients, but really due to the modern development of industry. It was the steam engine, and not the then Chancellor of the Exchequer, which enabled the country to develop so much population and wealth that the burden of the debt of a thousand million, which in 1815 seemed an overwhelming figure to the twelve million agriculturists in this country at that time, became within the relatively short period of two to three generations an almost negligible factor in the national budget.

The same process has to be performed now to restore us not only to our pre-war prosperity, but to lead us to a condition of far greater comfort and leisure than the people of this country have ever known. As I have pointed out in my papers on science and industry, it is to the chemist, the physicist, the biologist and the engineer that we have to look to recreate our economic conditions, for it is only by the better utilisation of the forces of nature, by more economical use, by a greater efficiency in processes in existence,

and by the creation of processes yet to come, that the wealth of the world, and consequently the prosperity of its population, can be increased.

This is absolutely fundamental: it might be almost stated as obvious. It is so often ignored, that it is necessary to re-state it on every possible occasion, for there is a spirit in many quarters of industry of defeatism, as far as this country is concerned, entirely without justification. There is a tendency to exaggerate the success of all our rivals and depreciate quite unduly the efforts of our own country, and in order to endeavour to produce a higher degree of endeavour among ourselves, we attribute all the virtues to other countries and all the defects to our own. The best instances of efficiency, energy and management are reported to us as examples of common practice, while it is well known to those who really study, not superficially, but with practical fundamental acquaintanceship, the conditions of industry in other countries, that there are there, as everywhere else, some who are very good and many who are very bad.

Let us by all manner of means learn what we can, but we must not imagine that we can copy slavishly either the industrial methods or the production of products suitable to other countries and markets, without due regard to our special conditions and limitations. I would say generally that we have the elements, from the managerial, scientific and technical point of view, for dealing with any commercial or industrial problem that presents itself. But if we can only extend our vision a little further; if we can only give up the fatal habit of comparing the industries of Great Britain to those of the continent of America, we begin to realise that we are a part of the greatest economic unit the world has ever known, namely, the British Empire.

There we have, under one flag, one crown, and in one complex, population, resources and markets far exceeding that of any other nation in the world—including the North American continent under the American flag. We should therefore realise that it is essential for our future to understand that this is not the time to write "Ichabod" on our walls, but that it is the very time to go on courageously for the greatest prize which has ever lain within the grasp of the

peoples of any countries. This is the motive which I endeavour to indicate in my articles on empire policy. This is not merely a revival of older ideas in the same direction. It is not merely an aspiration towards an ideal. It is becoming an everyday problem, the necessary solution of which has been forced upon us.

As becomes more apparent day by day, the trend of all modern industry is towards greater units, greater co-ordination for the more effective use of resources. This process is taking place in all countries of the world, and it therefore becomes clear, even to the most casual observers, that the industries of Great Britain cannot stand aloof. But this process of the grouping of great industries is leading towards a further series of economic consequences. One of the main consequences is the creation of inter-relations among industries which must seriously affect the economic policies of nations. The logical consequences of the economic grouping of industries is the economic grouping of countries themselves. Hence we see the grouping in Europe towards some form of economic union which already exists in the most powerful of existing and organised economic units, the United States of America. Great Britain has always occupied a dual position as an economic entity, partly owing to her proximity to Europe and partly on account of her world-wide Empire. Therefore, there have always been controversies, which still exist, as to the relative importance of European markets and overseas markets. European markets are established, they are so to speak more ready made, than the slower growth or distant developments of Empire markets. Undoubtedly this has led to actual, rather than potential, markets receiving more recognition than is their due.

But the time will come—quite probably not at such a distant future—when the dual position which has been maintained so far will become more and more difficult. Just as in every great business to-day we see who are to become allied to work in the world's markets—the fact as to what economic complex you enter—so the same problem will arise on a still larger scale, as to whether Great Britain goes into the European Union or an Empire Union. That

does not mean that Great Britain would not continue to do a very large and important trade with Europe, or that those engaged in industry in Great Britain would have no relations and connections with other industries in either Europe or America, but it would be necessary to decide as to where the chief weight is to be thrown, which is to be the leading consideration, and which is to be the secondary one.

If Great Britain came into a combination—which is quite imaginable—of a European Customs Union, with its necessary corollary of tariffs against those who were not in the Customs Union, where would she stand in relation to the Empire and the whole problem of Imperial Tariff Preference? In fact, would the position be maintainable at all? If, on the other hand, it is impossible for us to enter into such an economic union, because of our Imperial nature, what would be our position in the Empire if, instead of acting as an economic whole with a combined policy both as regards creating amongst each member tariffs against the rest of the world, it were left in an unorganised condition. For in that unorganised state every Dominion would be making its own arrangements, which might be beneficial, or entirely detrimental to the mother country, and the whole of the resources of the Crown Colonies would be left very much as they have been hitherto to spasmodic and sporadic development, and with no settled fiscal relations with the mother country at all?

These ideas may appear to look a long way into the future, but there never was a time when it was more necessary in the affairs of men to endeavour to take long views. We certainly cannot afford to wait upon events instead of shaping them, and we cannot afford to risk the necessity of having to take snatch decisions under the compelling force of events as they occur. A policy such as this requires long and careful study and working out. Minds have to be attuned to new harmonies. The minds of peoples throughout the Empire have to be directed into new lines of thought. Many prejudices of vested interests will have to be overcome. But it is no use dealing with the various problems of social policy and the economics of industry unless we can see them as far as is possible as a whole. It is no use creating new in-

dustries and new products unless you at the same time develop markets in which the goods can be sold. It is no use elaborating schemes of profit-sharing if there are no profits to share. It is no use to ask the working-class population to be content to continue under an economic system, under which many of them, after long centuries of experience, are still on a standard of life of an inadequate character, unless you can hold out and demonstrate that the prevailing economic system is one which can be developed and which will place them in a better position in the future.

Many of the nightmares of the struggles of so many people of the present time, both socially and financially ; the questions of the growth of population and the future food supply of the people of this country ; the future economic and industrial position of Britain ; the future stability of our institutions—all these can be resolved by courageous and co-ordinated policy. But this policy must be aimed towards and must achieve the scientific development of industry and the creation of markets in which its products can be exchanged for what are required from outside, and the relationship of those engaged in industry must be rendered of a stable and permanent character by the consideration of social, industrial and political problems, not in a local or departmental, but in a national and imperial sense.

In conclusion, what then are the essential directions in politics and industry which can make Britain again whole within herself, and her people the contented and prosperous citizens their sacrifices in war and in industrial depression entitle them to be ? The first is the establishment of the reign of industrial peace ; another, the agreement upon an industrial policy which will make that peace secure and safe. These alone will do much to relieve the intensity of the spectre of unemployment. By the application of a new psychology to industrial relations, and the creation of a true co-partnership in industry in production and profits, the machinery of conciliation will be permanently improved. By Britain taking her place in all modern economic movements, by the organising and reorganising of her industry into units which command prosperity at home and homage abroad, the country will be enabled to recapture lost, maintain and

extend existing, and discover and explore new export markets. The organisation of industry has an imperial and international as well as a national implication. The economic entity of the British Empire awaits organisation ; its resources await development. The old industrial revolution must give way to the new. The old industrial revolution was the age of steam and the application of power to production. The new industrial revolution, upon the threshold of which we already are, will be the age of the machinery of organisation. Machinery has already been organised.

THE POST-NAPOLEONIC ERA

PERIODS of history have a way of repeating certain essential characteristics which seem at first sight peculiar to some particular age or combination of circumstances. But in all periods of history there is one factor which, however inconstant it may seem, is really consistent in its inconstancy, and that factor is human nature. Under the necessity of emotional strain or economic necessity humanity has a habit of reproducing its virtues or repeating its mistakes. The broad movements of peoples can be reduced to a few elemental principles, and mere differences or divergencies of time and place recoil but little to the needs and necessities of mankind.

There are, therefore, essential similarities between the periods which followed the long-drawn-out conflicts between Britain and Revolutionary and Napoleonic France and the shorter but wider-spread conflict between Britain and her allies and associated powers and Imperialist Germany. The weapons of warfare and its methods may have been different, but the difference is mainly of degree. The results of the two wars upon the finance, economic and industrial structure of Britain, possess a score of points of contact. Even the remedies devised to meet the temporary results of a huge continental or world upheaval possess similarities or even repetitions down almost to the minutest details.

For example, in both cases a desperate but militarily successful struggle had been waged against a military despotism. In both cases the cessation of the military struggle did not bring the expected prosperity to the victors, but rather prolonged distress and unemployment. In both cases the wage of the worker, artificially swollen during the war, had to be brought into relationship with the necessities of an impoverished peace. In both cases the alarm caused

to the Government by industrial unrest and discontent at home was enhanced by the fears fed by revolutionary propaganda from abroad.

There is, however, always a danger of pushing a parallel too far. Many of the considerations in the situation after the Napoleonic War were entirely lacking, or appeared only in a modified form, after the Great War. For instance, the general intellectual outlook was different. Britain in 1815 was faced with a number of problems which were entirely fresh; many of the other difficulties appeared in such an exaggerated form, as compared with similar visitations, that the problems which arose appeared quite new. The current philosophy of the age taught those who were faced with the new problems that they could only be solved by leaving them to settle or sort themselves. *Laissez-faire* unfortunately prevented Parliament from grappling insistently and incisively with the economic conditions of the time. The outlook of the twentieth century was different. It had the experience of 1815 prepared to instruct it. It was hampered by no preconceived economic theories. *Laissez-faire* had followed the Mercantile Theory to the limbo of dead, decayed and desolate theories.

But there were other differences between the early nineteenth and the early twentieth century, some of which facilitated and others of which encumbered the solution to the main problems. In the early nineteenth century Britain was largely economically self-supporting. During the war, by great efforts, the Government had succeeded in making the country almost entirely independent of foreign supplies of corn, but the position could be maintained in time of peace only by keeping the worse lands under cultivation. This involved maintaining prices at a height which the low rates of wages made impossible, and this at a time when, while the population was steadily increasing, the proportion of the population engaged in farming was steadily diminishing. In 1811 it was 35·2 per cent; in 1821, 33·2 per cent; in 1831, 28·2 per cent.

In 1815, short of actual violence there was no way in which the bulk of the population could bring pressure to bear effectively upon the Government, and the improvement

in the condition of the workers was rendered possible only through the rivalry of the agricultural and industrial interests. The Industrial Revolution was but in its infancy, and the changes it was to effect were largely but nascent. The introduction of machinery had begun, but its consequences had not been considered or consummated. The years between 1815 and 1832 saw Britain struggling to work out a new industrial system at a time when every change was impeded by the results of a long war. It was therefore a time of great hardship. Trade was generally bad, unemployment was rampant, wages were low, the price of food was high. But the seeds of the prosperity of the Victorian Era had already been sown, and were slowly being fructified. The new industries had been established; these would eventually absorb the surplus workmen. The growth of machinery would lower the price of manufactured goods, secure markets abroad, and lead to the principle of Free Trade and the practice of cheap food.

Which was most to blame for the condition of the worker—the Industrial or the Agricultural Revolution? For both revolutions had occurred concurrently. Add to the changes in the economic structure of the State the stress which bore on men's minds as a result of the strain of a long war and the consequent heavy taxation, and the failure of the authorities to deal with the situation in any consecutive or logical manner, and the atmosphere for the period 1815–32 is set.

Britain had never been a country of rapid change or where rapid change was readily accommodated. The enclosure movement had begun in Tudor times; in the eighteenth century it had been accelerated and enlarged. The factory system was no sudden growth of the eighteenth century; its beginnings were shrouded in the past. Both the Industrial and the Agricultural Revolutions had been long evolving, and would have continued to evolve in such a manner that men might have adapted themselves to the changes. But during the long struggle with the French Revolution and with Napoleon the production of food, of armaments and of clothing, was speeded up for military purposes. The expansion of some industries had then as always the effect of creating an expansion in others.

Then came peace. British manufacturers believed that with the removal of the restrictions and impediments of the war there would be a greater demand than ever before for their goods. Production was speeded up, and the restoration of peace saw the markets of Europe deluged with British goods. There was no demand. The manufacture of munitions ceased and the men were discharged. The Continent could only buy British goods by exporting food-stuffs to Britain. The country therefore had to choose between agricultural and industrial distress; the Government of the time chose to have both.

The depression in trade had its natural results in the growth of unemployment and the decline of wages, and again one of the most severe features was the rapidity of the change with which the workman was plunged from affluence to poverty. The distress showed itself as soon as the war was over, when the iron and coal trades suffered immediately. The trade depression affected shipping; in the early months of 1816 it spread to agriculture. The progress of the nation can in some directions be discovered by the following table :

Year.	Sum Expended in Poor Relief.	Population (estimated).	Wheat per Quarter.	No. of Quarters of Wheat which Money would Buy.
	£		s. d.	
1815	5,418,846	10,979,437	63 8	1,702,255
1816	5,724,839	11,160,557	76 2	1,503,240
1817	6,910,925	11,349,750	94 0	1,470,409
1818	7,870,801	11,524,389	83 8	1,881,466
1819	7,516,704	11,700,965	72 3	2,080,748
1820	7,330,256	11,893,155	65 10	2,226,913
1821	6,959,249	11,978,875	54 5	2,557,763
1822	6,358,702	12,318,810	43 3	2,940,440
1823	5,772,958	12,508,956	51 9	2,231,094
1824	5,736,898	12,669,098	62 0	1,850,612
1825	5,786,989	12,881,906	66 6	1,740,447
1826	5,928,501	13,056,931	56 11	2,083,221
1827	6,441,988	13,242,019	56 9	2,269,987
1828	6,298,000	13,441,913	60 5	2,084,855
1829	6,332,410	13,620,701	66 3	1,911,671
1830	6,829,042	13,811,467	64 3	2,125,772
1831	6,798,888	13,897,187	66 4	2,049,916
1832	7,036,968	14,105,645	58 8	2,398,966

Throughout the period, in addition to the great burden of unemployment, the wages of those who were fortunate

enough to be at work were low. Nearly three hundred thousand ex-service men swelled the ranks of the unemployed and helped to bring down the price of labour. The Government had ceased to buy goods—indeed they had commenced to sell surplus military and naval stores.

The Government insisted that heavy taxation was necessary in order to reduce the burden of the National Debt. There were three other policies which might have been adopted. The Opposition took the line that it was unnecessary to reduce the debt burden; they desired to throw the Sinking Fund overboard, and to reduce taxation, and they urged that the country would soon be so prosperous that the payment of the annual interest would be a mere trifle. This was in effect the policy which was ultimately adopted, but not until after the Government had made big efforts to reduce the debt by means of taxation. Ricardo urged that supreme effort should be made to pay off the whole, or at least the greater part of the debt, by a compulsory contribution from capital, but the proposal for a Capital Levy met with little support. Others advocated the complete or partial repudiation of the debt; but this proposal was repulsive to the sense of public morality, though in effect the principle was accepted by the currency policy pursued.

The results of the return to coin were a fall in prices and wages. It was argued that the resources of industry were being fettered in order to repay the Fund holders more than they had actually lent the nation. All sorts of suggestions were made for counteracting what was regarded as the unjust influence of the Fund holder. Some of the schemes, such as the conversion of certain stocks into others bearing a lower rate of interest, were actually effected, and were justified, as the holder had the alternative of being paid off in full. In general, however, the demand was for an "equitable adjustment" of contracts and largely reducing financial obligations in the same proportion as the pound had risen in value since the resumption.

The critics of the Government frequently asserted that the trade depression after 1815 would not have occurred, but for the Corn Law of 1815. The foreigner, it was contended,

had formed the habit of buying manufactured goods from Britain; he had no desire to cease doing so, but could only do so as long as he could sell his agricultural produce here. The Corn Law, by preventing the import of foreign corn, indirectly checked the export of British manufactures. While the Corn Law did not prevent distress in agriculture, it did a vast amount of harm to the manufacturer. The scale of wages, without being adequate to the workman, was a heavy burden to the employer, merely because of the high price of food. Trade was seriously and permanently affected. America, unable to send corn to Britain, began manufactures at home, and protected them by a tariff, and the market was consequently lost to Britain.

In retrospect, it is easy to blame the policy pursued on the importation of corn. We know that the future of Britain was as a manufacturing country, but the Parliament of 1815 did not know this, and may be partially pardoned for refusing to sacrifice agriculture to industry. The main condemnation of the policy is that it could not benefit the agricultural labourer in any way. As he had no land of his own, the labourer was interested in the price of corn as a buyer and not as a seller. High prices meant profit to the land-owner and the farmer, as they did not have to pay high wages. If the price of food increased, it was the community which, through the Poor Rate, paid the increased price of the labourers' sustenance.

Industry, too, was fettered by a number of protective duties, which were only a little less harmful than the bread tax. The cotton industry, for example, which was the textile industry which received the least protection, was the most prosperous of all! But it was the heavy taxation which the official Opposition blamed mainly for the distress. The amount of blame was exaggerated, but the worst feature of the financial policy was the obstinate clinging to the Sinking Fund, which at best was "digging one hole to fill another". The debt charge totalled more than half the receipts, and there was generally a deficit, as will be seen from the following table (in thousands of pounds):

Year.	Receipts.	Issues.	Surplus.	Debt Charge.
1816	72,110	112,377	- 40,266	32,281
1817	62,265	65,360	- 3,095	32,924
1818	52,056	55,281	- 3,225	31,486
1819	53,748	53,349	399	31,169
1820	52,649	55,378	- 2,729	31,355
1821	54,283	54,330	- 47	31,105
1822	55,834	57,111	- 1,277	29,723
1823	55,664	53,710	1,954	30,143
1824	57,673	56,223	1,450	29,174
1825	59,362	59,232	130	28,958
1826	57,274	61,520	- 4,246	29,415
1827	54,895	55,081	- 186	29,329
1828	54,933	55,787	- 854	29,168
1829	55,187	54,171	1,016	29,068
1830	50,787	51,835	- 1,048	28,326
1831	50,057	49,078	979	28,330
1832	46,424	49,797	- 3,373	28,351

The crushing burden of taxation aroused the cry that the Government was extravagant. But Governments, after a great war, are naturally inclined to be somewhat lax about the expenses of administration. Forced to spend lavishly during the war, they find it difficult to put a check upon this source of expenditure when peace returns. Besides, the war had involved an increase in the administrative establishments which it was not possible to reduce sufficiently at once. But even when this allowance is made, the fact remains that the expenditure of the Government after the Napoleonic War was far in excess of the needs of the nation.

An interesting experiment was made by Vansittart, the then Chancellor of the Exchequer, when he adopted the Dead Weight Annuities Plan for the payment of war pensions. The Government proposed to pay an annual sum for forty years to Commissioners, who were to make arrangements for the payment of the pensions; the plan involved throwing much of the expense on the next generation. By relieving taxation for the time, it assisted in the recovery of the nation, but it was a remarkable policy to be adopted by a Government which clung fervently to the Sinking Fund to reduce a debt which they were thereby increasing! In 1830, however, it was discovered that the calculations

on which the Government had based their plan were wrong, and the whole scheme was hastily abandoned.

In 1822 an agitation sprang up against the salaries and position of Civil Servants, which followed much the same course as the movement against teachers' salaries a few years ago. During the war the Government had granted pensions to the Civil Service. Now, urged to economy by the Opposition, they made the Civil Servants pay for their pensions by contributing 5 per cent of their salaries ($2\frac{1}{2}$ per cent if the salary was less than £100 per annum). Excessive salaries were to terminate with the existing holders, who were to pay 10 per cent of the excess of their salary over a reasonable amount.

In addition to the heavy weight of national taxation, the local Poor Rates imposed a heavy burden on industry, as will be seen from the following figures, which represent the total Poor Rate with the rate per head of the population :

Year.	Population.	Poor Rate.	Rate per Head.
		£	s. d.
1760	7,000,000	1,250,000	3 7
1784	8,000,000	2,000,000	5 0
1803	9,216,000	4,077,000	8 11
1810	11,876,000	7,870,000	13 3
1820	14,046,000	7,329,000	12 2
1830	14,924,000	6,829,000	10 9
1841	15,911,757	4,760,929	5 11 $\frac{3}{4}$

An inquiry held dealt with parishes where the agricultural labourers owned a cow, with the following interesting result : In nine parishes, in which more than half of the labourers owned a cow, the Poor Rate was $3\frac{1}{2}$ d. ; in twelve parishes, in which between one-third and a half owned a cow, the poor rate was $9\frac{1}{2}$ d. ; in ten parishes, in which between one-quarter and one-third owned a cow, the rate was 1s. 6d. ; in seven parishes, where between one-sixth and one-quarter owned a cow, the rate was 4s. 11 $\frac{1}{2}$ d. ; and in thirteen parishes, where few of the people owned cows, the rate was 5s. 11d. Where the labourer had some subsidiary means of support the Poor Rate was very much less than elsewhere.

The general trend of prices in the post-Napoleonic

period can be more or less accurately gauged from the index-numbers drawn up by Sauerbeck, based on the prices of forty-five commodities :

1818 : 142.	1823 : 103.	1828 : 97.
1819 : 121.	1824 : 106.	1829 : 93.
1820 : 112.	1825 : 117.	1830 : 91.
1821 : 106.	1826 : 100.	1831 : 92.
1822 : 101.	1827 : 97.	1832 : 89.

But no consistent policy was adopted, or systematic attempt made, to relieve the distress which was caused by high prices and unemployment, and something of every remedy was tried. Taxation would be reduced slightly to encourage trade, and then increased to advance national credit. The gold standard was restored to advance credit ; then the small notes were issued to promote enterprise, and then called in again to check speculation. The Poor Law administration was tightened up enough to cause discontent, but not enough to achieve a tangible result. Admiration was constantly expressed in Parliament for the scheme of the Labour Rate, but every Bill to enable the majority of a parish to enforce the scheme was rejected. A little public money was spent on emigration, and, when the policy proved a success, it was hastily abandoned. One year the Combination Laws were repealed, the next year they were re-enacted almost entirely.

Of great interest was the movement to fix wage-scales, and in one industry the principle had already been adopted. Previous to 1773 the silk-workers of Spitalfields had been one of the most turbulent elements in London, but when the first of the Spitalfields Acts was passed, authorising the fixing of wages in London by the Lord Mayor, Recorder and Aldermen, and in Middlesex and Westminster by the Magistrates, the silk-workers became famed for their law-abiding character. The silk industry, it is true, enjoyed special protection, for the import of foreign silk manufactured goods was forbidden entirely. Still, the competition of Coventry had to be faced ; but the employers made no effort to remove their industry from London, and they retained most of their custom. Contented workers may balance to the employer the competition of cheap labour.

Among the methods designed to deal with the problem of unemployment was the plan to obtain small areas of land for the poor, with, if possible, an animal to graze on it. In 1819 an Act authorised the purchase by the local authorities of land to a limited extent (20 acres) for the use of the poor. A subsequent Act extended the limit to thirty acres, but the amount was too small to be of any great use, and the scheme was merely permissive. The economic theorists of the time were strongly opposed to the direct participation of the State in industry, and there is only one modest instance of public works for the relief of unemployment being undertaken. In 1817 the distress was at its height, and Parliament voted an advance of £500,000, at 5 per cent interest, to the local authorities, to be spent on public works for the purpose of providing employment. Actually the Government advanced twice the sum voted, but the experiment was not repeated.

One of the most obvious devices for dealing with unemployment was the encouragement of emigration to the Colonies. Emigration of artisans to Europe was prohibited by law, in order to prevent other countries competing with Britain in manufactures, but the United States was apparently regarded as being dependent on Britain for manufactured goods, and no great objection was taken to emigration there. Canada was, however, the chief field for emigration. But many who wished to go could not afford the passage-money, and there were frequent petitions to Parliament from the unemployed to be expatriated. A sum of £50,000 was voted to assist emigration, but this was merely an experiment for the purpose of discovering the cost. The sum voted was greatly exceeded, and five thousand people were sent out at the expense of the State.

Another attempt was made in 1825, which proved a great success. In 1827 the matter was referred to a Committee, who drew up a regular scheme. The Manufacturing Relief Committee offered to subscribe £25,000 if £50,000 could be raised from other sources. This would provide for 1200 families, or between six and seven thousand people. A previous estimate had reckoned the expense at £50 a head, but it seems to have been reduced to a little more than

half that amount, Money was to be advanced to would-be colonists, to be repaid gradually within thirty years, the emigrant paying nothing for the first three years. It was also suggested that parishes might thus get rid of their paupers, raising the initial money by a tax on new cottages.

It is not certain how far this plan was adopted, but when it is considered that in 1832 alone the number of emigrants amounted to 103,140, or about .5 per cent of the population, and that since 1825 it was over 350,000, or 1.75 per cent of the population, it is clear that emigration was responsible for much of the improvement in conditions. After 1832 the emigration was not so great, though for some years it remained considerable. The following are the statistics of emigration during the post-Napoleonic period :

Year.	Australia and New Zealand.	Canada.	United States.	Not Stated.	Total.
1815	..	680	1,209	192	2,081
1816	..	3,370	9,022	118	12,510
1817	..	9,797	10,289	557	20,634
1818	..	15,136	12,429	222	27,787
1819	..	23,534	10,674	579	34,789
1820	..	17,921	6,745	1,063	25,729
1821	320	12,995	4,958	384	18,697
1822	875	16,013	4,137	279	21,304
1823	543	11,355	5,032	163	17,093
1824	780	8,774	5,152	99	14,805
1825	485	8,741	5,551	114	14,891
1826	903	12,818	7,063	116	20,900
1827	715	12,648	14,526	114	28,003
1828	1,056	12,084	12,817	135	26,092
1829	2,016	13,307	15,678	197	31,198
1830	1,242	30,574	24,887	284	56,907
1831	1,561	58,067	23,418	114	83,160
1832	3,733	66,339	32,872	196	103,140

During two years of the period there was serious over-production—in 1816 and 1825—and this was encountered by employers in two different ways. In some firms there was a limitation of output. The men were kept in employment, but given less work, and paid proportionately less. Therefore, though the men had a hard time, they earned something, and, at least, had more spare time to themselves to compensate for their reduced wages. Moreover, the

diminution of supply led to an increased demand, and thus, before long, the men would again be working full hours at full wages. This was a course of campaign which commended itself to the Committee of 1830.

Other firms, on the other hand, finding their prices falling, reduced wages but not output. The men received less money for the same amount of work, and in order to maintain their old standard of living they worked overtime. The natural result followed. The output, which was already in excess of the demand, increased, prices dropped still further, and there was still a further reduction of wages, while hours were steadily increasing. It is not surprising, therefore, that wage reductions, unaccompanied by reductions of hours, aroused discontent and led to strikes. The worst trade disputes were in the textile and shipbuilding industries; and in both of them, although the employers made full use of the Combination Laws, the men were nearly always successful in obtaining their demands.

On the political side, the period between 1815 and 1832 may be conveniently divided into four periods. From 1815 until about 1820 the panic induced by the French Revolution was in complete swing. The Government stopped freedom of speech, and with a firm hand put down all manifestations of discontent; the upper and middle classes lent them effectual aid. By 1820 the force of the political reaction was almost spent, and the Government, weakened in its prestige by its conflict with the Crown, appeared tottering to its fall. But the more reactionary Ministers gave way to younger and more liberal-minded men, and, by taking a lead in the direction of reform, the career of the administration was lengthened. This situation lasted until about the end of 1825. The financial crisis with which that year ended discredited the liberal statesmen. A new reaction set in, and, in 1828, the reformers were driven from the Cabinet. But their surrender on the Catholic question, coupled with the French Revolution of 1830, led to the fall of the Tories. The last part of the period, from 1830 to 1832, marks a revolution under constitutional forms which dethroned the old powers from their position of control.

The first period was one of deep gloom, and almost

despair. The condition of the mass of the people appeared hopeless, and to almost any cry for relief the Ministry replied only by harsher measures of repression. Scarcely anything was done to relieve the sufferings of the people, and there were many people who believed regretfully that nothing could be done. By the end of the period a few first gleams of light had appeared. A beginning had been made at the redemption of the paper currency. The first steps had been taken towards the adoption of freer trade. Perhaps the greatest moral effect was wrought by the fact that, in 1820, in a struggle with popular sentiment, the Government was, for the first time, vanquished.

The general situation in 1815 gave no indication of anything out of the ordinary. The good harvests and the falling price of corn caused the agriculturists some anxiety, but the manufacturers were prospering, and were looking forward to increased prosperity, as the war was over. War restrictions would be ended, food would be cheaper, taxes would be reduced and trade would flourish. Such appeared to be the prospects. The Government, it seemed, would have to face a strong Opposition, and it was not improbable that it would be driven from office. But it was long before the Whigs became again as strong as they were in 1815 and the early part of 1816. It was not until the events had disappointed expectations that the reaction properly began.

In 1816 prices began to fall rapidly, and wages naturally followed downwards. Iron fell from £20 to £8 a ton, and copper from £180 to £80. Distress in the iron and coal industries would naturally have had their reaction in other industries, but these were already adversely affected. Moreover, Britain no longer held its old monopoly of manufactures. At the Leipzig Fair the merchants succeeded in disposing of all their goods, but only by selling them at a price lower than those of any other country, and far below the cost price. There was a sudden and complete slump of manufactures. Wages everywhere came down rapidly, and large numbers of people could find no work at all. In some parishes half the inhabitants were on the rates. By 1817 the distress was even greater, and so matters went on. In 1820 there was a change for the better, which is attributable to many causes.

Employment increased, wages rose, and the price of food fell. Moreover, the firmness of the authorities had cowed the people for the time, but there was more indignation and less fear than a few years before.

Throughout the whole period from 1815 to 1832 the question of the currency continuously occupied a prominent position in the discussions in Parliament. As soon as the war had ended the Whigs began to urge the Government to return to the metal currency. The Bullion Committee had been composed of distinguished members of both parties. The Government were pledged to the resumption of cash payments at the end of the war. Yet, when the time came, they failed to effect the change. All evidence seems to show that it could have been accomplished without undue difficulty. But it would have compelled the Government to refrain from borrowing largely from the Bank of England. This they were not prepared to face, and they chose rather to postpone the evil day, to the indignation, if not the surprise, of the Whigs. The policy pursued by the Ministers was unwise. There were two alternative policies, for either of which there was something to be said. There was the Whig policy of returning at once to the Gold Standard, a policy which might have increased the distress at the time. But things were already so bad that the decline in the value of money could hardly have made them much worse, while there was the advantage of the diminution of the future burden on the country. The alternative was to abandon the idea of returning to the Gold Standard, let the Bank Note follow the Assignat into worthlessness, and, at the price of national honour, relieve the State of its burden of debt.

The actions and attitude of the Government combined the evils of both policies. The fear of complete redemption led the Bank into its ill-considered policy of partial redemption, while the fact that the restriction was continued emboldened the Government to increase the burdens of future generations.

On the whole question of redemption, a speech of Tierney's, delivered in the House of Commons in support of a resolution in favour of the return to such payments, was

framed in language and ideas which have been repeated during recent years. He declared that his motion was directed against the whole body of speculators, who were living on the losses of the honest and industrious, and who were rendered formidable by the methods of the Chancellor of the Exchequer. The latter's whole course of finance, for it could not be called a system, rested wholly and solely upon paper. No financial arrangements deserving the name of a system had been adopted since the return of peace. His practice had been constantly to hold out the expectation that things would mend; that, by and by, if the House would but wait a little, it would find that income and expenditure would balance each other. In the meantime the nation was to take his word for the promised improvement, and while the Sinking Fund was cutting off a certain portion of debt at one end, he was adding to it by Exchequer Bills, in an equal portion, at the other.

As a result of this motion a Committee was appointed, which reported in a few months. The liabilities of the Bank of England were announced as £33,894,580, and the assets in Government securities and other credits, £39,096,900, besides the permanent debt of £14,686,800, repayable to the Bank at the expiration of their Charter. Having shown that the Bank was solvent, the lack of wisdom which the Committee displayed was demonstrated. The gold which had accumulated had almost entirely disappeared. In 1817 and 1818 gold to the total of £6,700,000 had been paid away, but all this had disappeared from circulation. Nor was it difficult to find what had become of it. Gold to the amount of 125 million francs had been coined at the French mint during the previous fifteen months!

In order to enable the Bank to resume payment in specie, the Committee recommended that the Government should repay their advances, but allowance should be made for the balance of public money in the Bank's hands, and that the amount of unclaimed dividends taken over by the State should not be repaid. The Committee also proposed that the Bank should pay, on demand, gold ingots at fixed market price of gold, to bearers of notes, to the equivalent of at least sixty ounces, and in a few years the Bank was

to pay all the notes in the currency of the realm. Peel's resolutions for a temporary continuance of the Restriction Act, and for the fixing of a definite period for full resumption, were accepted unanimously by the House. The Bank realised that the House was at last in earnest, and set about preparing for resumption. Disregarding the advice of Ricardo, they bought gold in large quantities, with the result which he had foreseen. But the Bank also contracted its issues, and on May 1, 1821, it resumed full payment in specie.

By 1821 the period of reaction had reached its extreme point. The unpopularity of the administration with almost all classes in 1820 made it appear likely that its fall would soon take place ; but the Government weathered the storm, and, having shed its more incompetent and unpopular members, took on a new lease of life. Had a Whig Ministry attained office at this time, the financial position would have proved disastrous to it, for the Whigs were completely pledged to gigantic reductions of taxation and to freeing industry from commercial restrictions, two objectives which were achieved by the competent policy of Robinson and Huskisson. It was also a great advantage that the commercial restrictions should be removed by a Tory administration, as the Whigs could not offer much opposition to principles which they had advocated, while a Tory Opposition would have been a great hindrance to a Whig Government attempting to achieve the same purpose. Thus, by the irony of Fate the Tories became the chief instruments in clearing away the obstacles to a Whig tenure of power. By their financial and commercial improvements, and by their patriotic surrender over Catholic Emancipation, Parliamentary reform was made possible.

The four years from 1821-25 were, however, singularly uneventful. Apart from temporary agricultural depression, it was a period of prosperity. Taxes were constantly being reduced or abolished ; laws restraining industry were constantly being repealed ; the country was peaceful, and the Government was moderate and liberal. By 1824 wages and profits were high, trade was free and unemployment unknown. The reaction came in 1825, when the false

prosperity caused by the numerous speculations came to a sudden end, and gloom returned. It was as well that the improvement in the financial position of the country of the previous four years had occurred. It had been long needed, and it was well that it had set in before the crisis of 1825-1826 arrived to put a further strain on the country. The apparent prosperity of the country in 1825 was greater even than in the previous year, but the financial crisis of December ended the season of temporary prosperity, and the country entered into a new period of distress and political reaction.

It was during the year of prosperity, 1824, that the Committee sat and heard evidence upon which the measure for the repeal of the Combination Laws was based. The Committee heard a great deal of evidence from all parts of the country and representatives of all trades, and, having considered the evidence, presented a Report which throws a good deal of light upon the industrial conditions of the time. The Committee found that combinations of workmen had taken place to raise and keep up wages, and to impose restrictions upon the masters, and that the laws had not hitherto been effective to prevent such combinations. It found also that serious breaches of the peace and acts of violence had taken place in consequence of the combination of workers. The masters, however, had often united and combined to lower the rates of their workmen's wages, as well as to resist demands for increases, and to regulate their hours of working. Whereas prosecutions had frequently been carried on against the workmen, and many of them had suffered different periods of imprisonment for combining, though several instances were stated of prosecutions against masters for combining, there was no instance adduced of masters being punished. It was consequently held that the laws had not been efficient to prevent combinations, but on the contrary, in the opinion of both parties, had had the tendency to produce mutual irritation and disgust, and to give a violent character to the combinations. It was recommended that masters and workmen should be left at perfect liberty to make such agreements as they might think proper; that the Statute Laws which interfered should

be repealed and the Common Law altered. It was also found that the practice of settling disputes between masters and men by arbitration had been attended with good effects, and that it was desirable that the laws which regulated arbitration should be consolidated, amended and made applicable to all trades. Finally, it was held to be necessary, when repealing the Combination Laws, to enact such a law as might, by summary process, punish either workmen or masters who, by threats, intimidation or acts of violence, should interfere with that perfect freedom which ought to belong to either party.

The result of the repeal of the Combination Laws was not, however, altogether satisfactory. Some of the workmen lost their heads and indulged in unwise arrogance. New unions were formed all over the country; but some of the men took advantage of their newly won rights to engage in strikes, and that often in a manner which alienated public sympathy. The districts also, in which violence had occurred, did not change their tactics immediately. Employers urged Parliament to withdraw the concessions granted in 1824; and accordingly, in 1825, a new Committee was formed to hear evidence and make recommendations.

The Report of the Committee of 1825 considered that it would be better to state what kinds of combinations should be permitted, rather than what kinds should be prohibited. It urged that the Act of the previous year should be repealed, but that the repeal of the Statutes against combination should be confirmed. The prohibition of combination by Common Law was thus to be revived, but a clause was to exempt all unions of workmen or employers for the purpose of regulating wages and hours of labour, on condition that the decision of such unions should bind only persons present and consenting at the meetings. The report also proposed that cases of assault or intimidation should be dealt with summarily, one witness being sufficient. Neither side was satisfied with this Report, nor with the Bill in which its findings were embodied. The evils of this settlement did not appear at first, but the effect was unfortunate. Trade Unions continued to be conspiracies, barely protected by the Act of 1825, and they grew up with a semi-hostile attitude towards society, which

nothing has altogether removed. There seems little doubt that the measure of 1825 was quite uncalled for, and that the wisest course would have been to give the Act of 1824 time to have its full effects.

The year 1825 ended in financial disaster which cast a cloud over the whole nation. Many firms were ruined, and a great mass of workmen were thrown out of employment. Large numbers of the middle class, who had lived quietly on their small annuities, had been tempted at the prospect of wealth and had invested their money in one of the many bubble companies. They found their income gone, and had therefore to seek employment long after they had thought their future secure. Thus each class was pressing on that below. The workers found their wages reduced by competition from two sorts of rivals—those of their own class who had lost their work, and those of the middle class who had not hitherto had to work for their living, and who were fit for little else than manual labour. The professions became overcrowded and the slump in prices affected agriculture.

In a word, after a rapid recovery from post-war conditions there was a sudden and sharp set-back. A new period of social discontent and unrest ensued, which had its marked effect upon the political situation. The liberal element among the Tories had been in control, and this section was naturally, though unjustly, blamed for the distress. The general election of 1826 considerably increased the numbers of the more extreme section of the party.

The reaction of 1826–30 was, however, very different from the earlier period of reaction. The influence of Peel prevented any reaction in the commercial policy. The Corn Law proved unable to maintain itself against the assaults of the industrial classes. The surrender of 1829 over Catholic Emancipation stands in sharp contrast to the violence of 1819. It was a patriotic concession, but it was a party blunder. The Government was attacked from both sides. The extremists of its own party attacked through anger at the betrayal of their principles. The Radicals attacked because they had been taught that the Government would concede to power what it refused to argument. The July Revolution in France provided the finishing touch. The Ministry fell, and with it

that supremacy of the land-owning class which had been unshaken since 1660.

The general note of the period 1826–30 was one of reaction. By 1829 the power had fallen into the hands of the extreme Tories. But their rule proved unpopular, and there were signs that it would prove more difficult to crush popular discontent than it had been in 1817 or 1819. The Opposition was growing in strength, and the reaction of 1826 was beginning to lose its effect in numbers. Moreover, the Opposition was becoming united. A distinct *rapprochement* was visible between Whigs and Radicals. The Canningites were on the point of uniting with the Whigs, and were decidedly weakening on the only matter upon which they differed from the official Opposition—that of Parliamentary reform. But the virtues of the Tories were even more dangerous to them than their faults. Their resolute refusal to reverse the commercial reform of Robinson and Huskisson, their abolition of the policy of prohibition in the Corn Law, even Peel's reform of the criminal code, filled the more reactionary members of the party with alarm. The surrender on the Catholic question was the last straw. The extremists in the party denounced their leaders in unmeasured language. Most remained faithful to their principles, but sought for a chance by which they might, consistently with those principles, overthrow the Government. The general election of 1830 was unfavourable to the Government. Foreseeing their inevitable fall when the two sections of the Opposition found a common ground, an excuse was sought for resigning. The Whig Ministry came into office pledged to make Parliamentary reform a Government measure.

It was evident that, unless the Government could satisfy the wishes of the nation, they would give place to a Ministry of more Radical reformers. The country was discontented, and reform was accepted as the cure for all evils. The country seemed to be honeycombed with distress, and petitions flowed into the House of Commons in a constant stream. But the probability is that the depression of 1830, coming just after the country had appeared to have recovered from the financial panic of 1825–26, and not so long after the great prosperity of 1824, seemed to be much worse than it actually was.

The passing of the Reform Bill in 1832 marks the end of the post-war period. It effected a real revolution. The landed gentry lost their absolute control of Parliament. This now fell chiefly into the hands of the manufacturing classes. The moral effect of the change was very great. The political conditions of the post-war period were definitely at an end. The social misery of 1830 was beginning to clear away. Industry had been relieved of most of the bonds which had fettered it. There was every prospect of an improvement of conditions which the greater part of the nineteenth century contributed to realise. Two burdens remained on industry; two problems still awaited solution. The first was the Poor Rate and the second the heavy price of bread occasioned by the Corn Laws.

By 1832 industry had become almost normal. Unemployment was fast disappearing. The rule of the Middle Class in Parliament was established. The Poor Law of 1834 greatly reduced the burden of the rates and tended to drive into industry those who had hoped to exist on the labours of others. Finally, in 1846, the complete repeal of the Corn Laws removed the bread tax, which had compelled the payment of heavy wages. From that time progress was rapid; industry had been freed from its encumbrances and submitted to the removal of the protection it still enjoyed. The manufacturer was still able to hold his own not merely in British markets but abroad as well. The rights of the Trade Unions were confirmed and extended. The burden of the National Debt seemed a mere trifle to the Britain of the prosperous 'sixties, and this burden was further lightened by the world-wide inflation which followed the discovery of gold in Australia and California.

Then came the second phase of the Industrial Revolution—that of the new iron age. It was not hampered by the distress and unemployment which had marked the first phase of the Industrial Revolution. For it was not the industrial changes which had caused the depression. In modern times the periods of severe unemployment have occurred either shortly after a great war or after a period of reckless speculation, and such speculation frequently comes in the train of a war. Just as the South Sea Bubble was the fruit of the

War of the Spanish Succession, the panic of 1825 was the result of the struggle of South America for independence. The distress which pervaded the whole epoch 1815 to 1832 was due to the long struggle with the French Revolution and Napoleon magnifying and accelerating the changes in manufactures and agriculture caused by the Industrial Revolution.

“ MODERN INDUSTRIAL PROBLEMS ”

INTRODUCTION

THE present seems at once an opportune and an inopportune time to discuss the prevailing conditions of British industry, and to suggest some good remedy for their betterment. The post-war features of the industrial and commercial world have not yet been stabilised. Crisis seems to succeed crisis. Although conditions have not yet been stabilised, so far as British industry in particular is concerned, one or two general principles have already proved themselves.

The war has, if anything, made us more dependent upon international conditions in commerce. Increased population, with a diminished purchasing capacity; whole nations endeavouring to restore themselves after the devastations of war; new vigorous nationalistic countries seeking to establish national industries—these are but a few of the determining factors. In Great Britain, one of the most disquieting features of the main situation is the general decrease in production as compared with pre-war figures. Equally serious is the decrease in the volume of export trade, as shown in the Board of Trade returns. Imports are mounting up; exports, diminishing. The increased imports, it is true, are largely accounted for by the great increase in population which has taken place since 1913. Since the war the population of Great Britain has increased by nearly 2,000,000, while emigration has steadily decreased.

The immediate problem which suggests itself is: How can we increase our export trade? Lack of co-ordination in financial policy, the persistence for some years of a partial embargo on overseas investments and the rise in the value of sterling, have all tended towards the restriction of our

exports. This has aggravated seriously the unemployment problem—already sufficiently serious, because of the great increase in population. A combination of circumstances has forced people to regard certain factors in lowering the cost of production as our only salvation. This tendency has naturally reacted upon Labour, for they see, underlying the arguments which many industrial groups in this country desire to stress, reduced wages and longer hours. The result is a recurrence of industrial unrest, at the very time when peace in industry is vital.

The present industrial crisis is unequalled by any since that which followed the Napoleonic wars, and, in providing any solution, the questions of national expenditure and taxation are fundamental. The country has not even yet appreciated the importance to finance and trade of Government policy in currency and taxation. It has not yet realised that this has a determining effect upon the industries of the country. There is an absolute necessity for reduction in national and local expenditure; for rigid economy in armaments. Why does the country not correlate facts? What the country requires more than ever is rigid economy—a return to Gladstonian tradition in finance, when millions were not thrown away as if they were nothing, and pounds and shillings were counted in the Treasury as if they were of some account.

THE INDUSTRIAL TRINITY

Before considering definite lines of industrial progress, I want to say a word about the three factors vital to industry: capital, management and labour. These form the industrial trinity. The immediate need is a recognition of the basic position of each of these three factors. Once they are regarded as equal and essential parts of the industrial machine, the fundamental interests of which all converge, a true co-operation will ensue. The first need is the recognition of the basic principle. Capital and management are already recognised as partners; labour must be recognised also as an equal partner. Let us consider for a moment the present position and function of these three elements.

CAPITAL

One of the best definitions of capital for our purpose is, perhaps, that of the late Professor Alfred Marshall, in his *Principles of Economics* :

The language of the market-place commonly regards a man's capital as that part of his wealth which he devotes to acquiring an income in the form of money; or, more generally, to acquisition by means of trade. It may be convenient sometimes to speak of this as his *trade capital*; which may be defined to consist of those external goods which a person uses in his trade, either holding them to be sold for money or applying them to produce things that are to be sold for money. Among its conspicuous elements are such things as the factory and the business plant of a manufacturer; that is, his machinery, his raw material, any food, clothing and house-room that he may hold for the use of his employees, and the goodwill of his business. To the things in his possession must be added those to which he has a right and from which he is drawing income: including loans which he has made on mortgage or in any other ways, and all the command over capital which he may hold under the complex forms of the modern “ money market ”.

That, I think, is an accurate definition of capital, and it is quite irrespective of the individual. Capital, in reality, to use a very familiar term, and not an economic one, is our stock-in-trade; it is the result of the savings of the past. Capital, therefore, is an absolute essential, in whatever form it is owned; it is indispensable to the further progress of a country.

Circumstance of its ownership by the State or by an individual does not in the least affect the fact that, unless some one saves in some shape or form, so as to be able to provide the necessary means of creating, in the future, new factories, new railways, new houses, the productive work of the State and community must necessarily come to a standstill. If the State owned all the capital of a country, it would have to act in precisely the same way as the private holder; the Government would have to encourage general saving: but whether it would prove as successful as saving by individuals, under the existing system, is very doubtful. Moreover, there is one form of capital which is invisible, a large and powerful form—that is, credit, goodwill, honesty.

MANAGEMENT

The terms "employer" and "employed", "master" and "man", are inapplicable to our modern industrial conditions. Few men are at the same time capitalists, who own the business, and its managers. The directors of a company do not own the business: the shareholders are the owners. The managers are themselves employees rather than proprietors. Sometimes the workmen are also employers, in the sense that they own shares in the concern in which they work. We ought, therefore, to use the term "employer" in a different sense from anything meaning "management". Modern industry is generally owned. The Great Western Railway is owned by 104,000 shareholders, whose average holding is £1000. Messrs. Brunner, Mond & Co., Ltd., is owned by 32,000 shareholders, of whom 1300 are employed by the Company. The average holding in this company is £340. Management is nowadays, and always has been, one of the most vital functions in an industrial concern. Capital is necessary, labour is necessary, but the two are sterile unless you have competent management.

Management has a dual responsibility. It is, in a sense, a kind of arbitrator between the claims of labour and capital. It is the duty of the directors of our great industrial concerns to have regard to the just claims of the workers, who are, after all, their partners in their daily work, much more than the shareholders. The function of management is becoming more and more that of co-ordination, of seeing fair play between the various factors which contribute towards production. The president of one of the most important concerns in the United States told me that he looks upon himself as an arbitrator, as far as labour and the consumer are concerned.

LABOUR

There must be a more just and broader recognition of the position of the worker in industry. He must be made a co-partner, not only in so far as he is entitled to a fair day's wage for a fair day's work, and to participate in the profits made; consideration should be given to the problem of the

advice he can contribute in the direction and management of the concern. The essential factors in the present position must be recognised. The great growth of education from the elementary schools to the university has produced a new type of worker. Throughout there is a greater intelligence and a greater understanding of industry. The view of industry which haunts the purlieus of the soap-box orator of the Labour Party, or the more refined diction of the more cultivated product of Ruskin College, is not shared by the majority of the workers. Socialism, whether of the State variety or of the Guild variety, will not benefit the community or improve the position of the workers. Socialism is impracticable in the present organisation of industry, and would merely lead to a complete disorganisation and disintegration, to a diminution of interest, a reduction of output, and, consequently, to the impoverishment of the entire population.

There is only one fundamental means of improving the standard of living in this country, and that is, by the creation of the greater surplus wealth commonly known as “profits”. It is useless to talk about how you are going to distribute profits unless profits are made. Surplus values can be created only by a combination of capital—whether it is owned by the State or by private individuals—management and labour. The interests of all three lie, not in war against each other, but in working together. The goodwill of those engaged in industry is as important a factor as any, not merely in the maintenance of industrial peace, but in promoting efficient production. An essential function of any party which seeks to preserve the constitution, then, is to promote the machinery which will make effective the inherent good nature and goodwill which is so valuable an asset of our nation.

THE NATION AND INDUSTRIAL PEACE

The nation, as a whole, is as much interested in industry as in defence. The nation cannot tolerate industrial anarchy. One of the essential records in the progress of civilisation is the elimination of causes of war which have persisted for centuries. Eventually the League of Nations has been created as a proposed preventive of all future wars. Cannot

industrial strife be terminated on the same principle? Cannot a League of Industry be established for the maintenance of industrial peace? We have passed beyond the era of civil war, and we have cleared our thoroughfares of highwaymen. Yet the nation is constantly threatened by internecine civil war in industry, and there are still highwaymen who roam our industrial areas, eager to take toll of the community. The nation cannot allow the interests of capital or labour to take supremacy; neither can the nation permit industrial warfare, whether it is promoted in the supposed interests of either of these two apparently opposing sides.

ARBITRATION

We are led naturally, therefore, to a consideration of the problem of Arbitration. We have, in two of our great Dominions, examples of systems of arbitration which have worked well. In Australia the Commonwealth Court of Conciliation and Arbitration, while it endeavours to settle that class of industrial disputes over which it has competence, by conciliation, rather than arbitration, has power to apply compulsion at both of two points: compulsion to submit to arbitration before striking, and compulsion to obey the award. After fourteen years' experience as President of that Court, Mr. Justice Higgins, on resignation, stated:

It is now generally recognised that the Court has been of great public service, keeping the wheels of industry moving, standardising working conditions, and easing the conditions of the workers under the pressure of the rising cost of living; and that it has, within the limits of its jurisdiction, saved the community from the violent crises which have occurred during and since the war in Great Britain, Canada, the United States, Italy and elsewhere; few people know, however, what grave perils the Court has averted.

The State Industrial Courts have also been successful: they have worked well, and 90 per cent of the awards have been obeyed.

In Canada, under the Industrial Disputes Investigation Act of 1907, for the seventeen years ended March 1924, the number of applications received for boards totalled 619,

while the number of strikes not averted or ended totalled only 37. For the year 1923-1924 the number of applications for boards received was 28, the number of boards established was 13, and the number of strikes not averted or ended was nil. This Act made it illegal to declare a strike or lock-out in mines or other works of public utility until a full investigation into the merits of the dispute had been completed. Thirty days' notice had to be given of the intention of either employer or workers to secure a change in wages or working conditions. If at the end of this period no agreement had been reached, application was to be made for a Board of Investigation and Conciliation. The Minister of Labour arranged for the formation of the Board, one member being nominated by the employers, one by the workers, and a third on the joint recommendation of the other two members. The Board considered the facts of the case in dispute, and made its report to the Ministry of Labour. Subsequently, the employer and the employees were free to accept or to reject the recommendations and to resort to a strike or a lock-out. Penalties were provided if strikes or lock-outs occurred without request for a Board, or without waiting for its decision. In spite of the constitutional difficulty which has arisen, the fundamental principles of the Bill have been re-enacted. An Act to amend the Industrial Disputes Investigation Act of 1907 was passed by the House of Commons in Canada in May 1925.

Something on the lines of the Canadian example could be successfully applied to industrial disputes here. Our own Trades Boards have so far worked well, but they do not cover the main ground of industrial unrest, and have no power to function in the case of industrial disputes when the climax is approaching. It is often suggested that the Labour Party would oppose Arbitration, but, surely, it already supports compulsory arbitration in international affairs! Why, then, should it oppose compulsory arbitration before the outbreak of industrial war? Is the only war which the Labour Party will permit civil war, class war?

WHAT IS A FAIR WAGE ?

The public seems to think it easy to arrive at what is a fair wage. I cannot say that I have satisfied myself that any real economic basis exists for a wage, beyond a minimum. There are certainly bottom limits. It is clear that a wage cannot sink below an average subsistence level; it is equally clear that a wage cannot rise above the value of the product of the wage-earners' work. There is, between these limits, a wide margin, and it is extremely difficult to find any real scientific basis. There has always been too great a fear of higher wages. Higher wages must carry with them a greater degree of production and efficiency. On the other hand, higher wages ought to bring with them a greater consuming power; and that is an aspect which has been overlooked. If you increase the purchasing capacity of the million, you immediately create an enormous consumption, accompanied by large home production. In that way you will help very largely to stimulate your own industries and your own markets. What we want to do is, to increase our production by a greater use of our brains without entailing more physical effort. Many of our processes are very wasteful in use of coal and power, and we shall have to learn, as we have already learnt to some extent, how to economise and put our material to better use. If that is done, we can afford to pay higher wages. Shorter hours, even, would be possible without a diminution in production.

WHITLEY COUNCILS

A new era in the conduct of industry was inaugurated by the establishment of the Whitley Councils in 1918. The Councils have worked very well and avoided many difficulties. The questions arise, whether the plan cannot be extended, and whether the present voluntary system should not be made legislatively compulsory. My own view is that there is great room for an extension of the system of Whitley Councils, and I am in favour of making them compulsory.

PROFIT-SHARING

Considerable difficulty has been experienced in getting either Companies or Trades Unions to take an active interest in the questions of co-partnership and profit-sharing. Still, successful experiments have been made by a number of companies in a variety of industries. In the interests of all persons concerned in industry, profit-sharing should be extended. A successful profit-sharing scheme is a certain method of making every one engaged in industry interested in the results of the work. A universally compulsory scheme seems to be impracticable, owing to the variety of plans which will only suit particular industries. Still, the idea of legislation compelling industries and firms to work out schemes which would have statutory sanction is well worthy of consideration. It must be recognised that, while enterprise is entitled to just reward, labour is equally entitled to fair remuneration. From conversations I have had with the workers and their leaders, as well as with progressive employers, I am convinced that these ideas could be carried out with a general acceptance. There are many in the Labour ranks to-day who do not believe in Socialism—the men who by their industry and thrift have provided for their old age and for the advancement of their families. These men are waiting for the opportunity to join a party with a progressive outlook and policy in industrial questions.

What industry in its present state requires as much as anything is the co-operation of all engaged in industry in securing reduction in costs. The scheme in operation on the American railway system provides that all the persons employed share in cost reduction. I would suggest that the British railways should copy the example of those in America. In Messrs. Brunner, Mond & Co., Ltd., we have for a very long period given bonuses on the elimination of the loss in ammonia, and on reduction in fuel consumption. We have found, as a result, that every one becomes interested in efficient production.

The question we have to consider at the moment is whether the time has not come when some legislative action is possible, for thinking men in industry are getting more and

more convinced that this is the right line of future industrial development. Has not the time arrived when the principle should receive formal legislative sanction, without involving any stereotyped method? The plan which I would favour would be that industries should be called upon to submit their proposals for making this principle practicable, for approval to the Board of Trade. The scheme must be made sufficiently direct to be attractive. For instance, the collier's wage has been determined to some extent upon a profit-sharing basis, but the method of calculation is too remote: it must be made more direct.

I would like to say a word about the profit-sharing scheme which is in operation at the Mond Nickel Works at Clydach. The object of this scheme is the reduction of refining costs. In standard refining cost, the average for the year 1924 has been adopted as the basis, and details of the methods operating the scheme will be found elsewhere in this volume.

The system combines the idea of profit-sharing and co-partnership with the idea of cost reduction, and makes the worker a shareholder in the company. The worker benefits, not only by the reduction in the cost of production, but also ultimately at the end of each year in the same way as the ordinary shareholder, by good management, good salesmanship, and other administrative economies which have been effected.

While not wedding myself to any particular plan, even so far as any particular works, much less any particular industry, is concerned, I feel that the right path is to get the workers, the management and the shareholders to agree to a scheme for each particular works, best suited to the local circumstances, and the varied processes of that particular works. As far as the general public is concerned, their interest would be amply protected by the approval of the Board of Trade, which would be necessary before the scheme became effective.

LIMITATION OF PROFITS

In some quarters the suggestion has been thrown out that there should be statutory limitations to profits accepted.

There is nothing more likely to create apathy, waste and stagnation in industry than any attempt to lay down a statutory limitation of profits on capital.

Any one who knows from experience the demoralising effect which the Excess Profit Tax had on management and their work, the waste and extravagance which was encouraged, and the inefficiency and economic conditions which resulted from it, will view with the gravest apprehension the even more drastic dead-end result of carrying on a business enterprise if the people engaged in it are not allowed to share the profits earned among whom they may desire.

To a large extent what made a success of their work was the efforts that are required, common to modern industry, of either those in control of general administration, or those whose policy is the extension of markets, by continual vigilance in putting forth new ideas to obtain the best results for the business.

The demands which are made on technicians for new processes, to improve the efficiency of existing plants in cost reductions, are little realised by those not in contact with the daily working of a great enterprise.

The reward of all these efforts is a better return on the capital invested in the business, in which all engaged in the industry have a legitimate right to share. To lay down a hard and fast line beyond which these are not to extend is to sterilise such efforts and lead in business enterprise to the same kind of psychology which you find in Government Departments, namely, a continual tendency not to adopt and enter into new things and not to take any risks of failure, which is likely to dam the success where there is any advantage.

I do not think that any one who investigates, in an impartial way, the profits of the staple industries of the country over a long period of years can possibly come to any other conclusion except that the return, compared with the risks involved and the efforts made, is a relatively moderate one. In fact, in comparison with the profits of financing and big banking institutions, or insurance companies, or wholesale and retail trades, none of which is as vital to the country as an industrial concern, it will be found that on the whole industry has a very modest share return on the capital invested.

SECURITY FOR THE WORKER

During the last two decades a scheme of social service has been created to promote the security of the workers' position when incapacitated, unfit for employment, or unable to secure employment. Much has already been done in this direction, but the scheme of social insurances is still unco-ordinated. The immediate need is for complete co-ordination, to increase the efficiency of the service, and lead to more economical administration. The provision of security should not in any circumstances connote extravagance. Health benefits should be increased; many of the approved societies are prepared to advance in this direction. The unit should be the family rather than the individual.

The unemployment insurance scheme, as it exists to-day, is obviously lop-sided, and more than one great class of workers does not come under the Act. The administration of the Act leaves much to be desired. The whole question should be carefully re-examined. It prevents or hampers the migration of labour, it checks its mobility and fluidity. It tends to keep people from work, for whom there is work available. The relation between Unemployment Benefit and Poor Law Relief is ill-defined. Moreover, there is the great question whether the money now expended in the provision of Unemployment Benefit could not be employed more usefully.

UNEMPLOYMENT SCHEME

This leads on, naturally, to a brief reference to the scheme for the relief of unemployment which is associated with my name. The details of the scheme have received so much publicity that reiteration is unnecessary, but a word on the underlying principles might be useful. Firstly, I must make it clear that it is only the extraordinary conditions which prevail to-day, and which have, unfortunately, remained static for some years, which prompt me to suggest a temporary remedy. Without some action outside the ordinary lines of Government policy (and we have had four successive Governments endeavouring to grapple with this

problem), I see no hope for several years of the industrial situation righting itself. In industry and commerce, atmosphere tending towards confidence is a vital factor. A state of constant depression affects the whole atmosphere, and produces greater depression. If some stimulus can be provided which would aid industry by reducing prices, by increasing the purchasing power of the community, and striking at the roots of compulsory idleness, a great step forward would have been made.

Industry to-day is burdened by excessive overhead charges, largely due to high national and local taxation. Direct and specific subsidies granted by the Treasury would increase these burdens, and make our position in the competitive markets of the world still worse. The basic proposal of the scheme is that a part of the money which is already being paid in Unemployment Benefit should be diverted from non-productive to productive purposes. The Unemployment Fund is the joint property of the two categories of contributors—employers and employed, and of the State, which already subsidises it. Instead of keeping workers in enforced idleness, a proportion of the Unemployment Fund should be utilised to provide them with work. Legislation of a permissive nature would be necessary to operate the scheme.

The unemployed worker would be permitted to transfer the Unemployment Benefit to a prospective employer, upon condition that he provided work at full Trade Union rates and under all the usual Trade Union conditions applicable to industry in his trade and in his district. The employer would consider whether, with the assistance he would thus receive, he could increase his output, and could then apply to a properly constituted committee for additional workers. For three out of every four additional workers to whom he granted employment for a definite period, he would receive the Unemployment Benefit which had hitherto been drawn by them. In other words, the employer would receive 75 per cent of the Unemployment Benefit of all additional workers employed by him under the scheme.

Naturally, there would have to be checks and counter-checks, limitations and modifications, in the application of

these proposals, but all those are subsidiary to the main basis of the scheme. They are committee stage points, not matters to be raised on second reading. Any risks of abuse, of unfairness, of inequalities, can be provided against by the machinery set up to operate the scheme.

For long the right of the worker to work has been maintained ; that right has now been modified to the right to be maintained in compulsory idleness, without any constructive proposals to assure him any prospect of work at present or in the future. The only way to provide work in this country, in the present economic condition of the world, is to reduce the cost of production of British commodities, and, hence, enable competition on terms of greater equality in the world's markets. The margin between British producers' selling price and the foreign consumers' buying price is narrow. These proposals would obliterate this narrow margin, and, pending a more basic reconsideration of British industry, they would tide over the present difficult period. The situation is too serious for any proposals to be prejudiced by pettifogging points ; something must be done, and done soon. In spite of all the criticism, a large part of which has been ill-informed or mis-informed, I am still convinced that beneficial results would accrue from the adoption of my scheme.

OTHER FACTORS

There are a number of other factors in industrial policy to which I should like to draw brief attention in the short time left at my disposal. The tendency now appears to be to seek the salvation of industry by endeavouring to extend hours and reduce wages. This tendency is diametrically opposed to the social tendency which has been working for two generations in the opposite direction. I do not myself see that the solution of our difficulties lies in this retrograde policy. The whole of my industrial experience has entirely confirmed the view that it is the cost of production in man hours per ton of product which is important. Long hours and low wages tend to want of efficiency, to increase rather than to diminish costs. Our hours have always been shorter, and our wages higher, than other countries, excepting the

United States. As far as I can ascertain, there is no great increase in the relation of either in post-war, as opposed to pre-war, practice. There may be some, but it is not nearly so much as many think it is. I have seen both hours and wages follow our example in continental countries in the past. I am convinced that these countries will again be compelled to follow us in the future. The greater the industrial strain, the less the industrial efficiency. The great exertions required in modern industry themselves preclude longer hours. The higher standard of intelligence and observation required in modern factories could not be achieved by a stunted and stunted industrial population.

America has always had higher wages than Europe, yet it has always had a cheaper cost per ton of product. It has always developed the use of labour-saving devices more than other countries. It is in the direction of improved methods, labour-saving devices, better technique, that the future of industry lies. The problems confronting industry are not merely those relating to the co-operation of those engaged therein. Among the other factors which must operate besides new and improved methods of production, tending to increased output, research and invention, the greater application of science to industry, leading to new processes and the discovery of new products, strict attention will have to be paid in the future to questions of organisation and administration. The antiquated methods of our salesmanship need revision. In America, salesmanship in itself is a science. America has obtained its overseas markets through ability and activity. British industry requires no Columbus to set forth on a voyage for the discovery of new markets. Within the Empire Britain has the greatest emporium the world has ever known. The markets are there, waiting to be organised, asking to be developed. It is true that those markets cannot be organised or developed without the proper application of British credit. If those great tracts of country and continent are fertilised by British credit, the harvest will be reaped by a great increase in the export of British products.

No statement on British industrial policy would be complete without a reference to the great clogs on the wheels

of industrial progress. With a diminishing volume of export trade, they have recently become more insistent and inimical in their results. The oppressive burden of local and national taxation, increasing overhead charges to an absurd limit, is only equalled by the burdens of transport services, which oppress particularly those heavy industries, such as coal and steel, which are most depressed to-day. In taxation the burden should be taken off improvement. The incidence of income tax should be adjusted to enable industry to increase efficiency by replacement. The relationship of national and local taxation requires consideration and revision, particularly in such matters as the cost of education. With our modern system of small rating areas, the more industry is depressed the heavier becomes the burden on the area. Credit facilities for industry must be increased. Could not some new aspects be given to guarantees under the Trade Facilities Acts, to enable smaller men to get along, to help young men with ideas? Here is scope for a new endowment of youth.

CONCLUSION

What, then, is the function of a constitutional party in the various aspects of industrial problems which have been outlined? It is to see clearly what are the legitimate limits of Government or State intervention in our modern industrial organisation. Based on individualistic traditions, it must recognise, on the one hand, that the more freedom allowed to the play of individual forces, the better are the results likely to be obtained. Yet, on the other hand, it cannot shut its eyes to the fact that, with the growing complexity of our social organism, and the great awakening of our social conscience, there must be ever-changing boundaries between *laissez-faire* and State control. While rejecting the principle of merely standing still, and leaving the contending forces in the industrial field to fight out their battles at the expense of the community; while refusing to admit that there are not functions, both in organisation, research and credit, in which the community, through the Government, may usefully intervene, yet, on the other hand, it must reject, with equal decision, the principle that Socialistic

formulas, assisted by the operation of private enterprise and individual endeavours, can succeed in solving the difficulties of industry and commerce. It is no easy task. It wants continual judgment and vigilance to steer between Scylla and Charybdis. It is an easier rôle to be violent on one side or the other, but there is a more beneficent, necessary and useful function to perform. Courage to act, as well as courage to refuse to act, determination to do the right thing, in this as in other spheres—even if not immediately popular—to move along sound economic lines of progress, without prejudices, in clear-sighted fashion; to resolve these difficult problems in the interests of the State, and not of class—this is the great function which has to be performed by those who believe in the maintenance of constitutional government and the evolution of an ordered industrial society.

TRADE, CURRENCY, INDUSTRY AND UNEMPLOYMENT

IN view of the wide range of topics with which I am expected to deal my difficulty to-night is rather of selection than of exposition, and I will therefore, right away, say to you that in the remarks I am about to make there must necessarily be a large number of gaps, which will want filling up by detailed statements, statistics and figures, which would take me too long to give to-day. I will outline to you this large and important subject in broad fashion—the broad aspects, as I see them, of our trade, our currency and unemployment questions.

THE PRESENT TRADE OUTLOOK

Now I must begin—and it is a good thing to do—with the condition of trade. The condition of trade is more talked about by speakers on platforms, and more written about in the Press than at any period I can remember in my political life. As a matter of fact, when trade is normal, when its machinery is working smoothly, when it is going along in a jog-trot and ordinary way, it is not very interesting to the public speaker or to the Press. Then the poor man of business is allowed to carry on, according to his capacity, without much interference from any one. But that is not the position to-day. One moment I hear that Britain is ruined—what is to be done with the parlous state of the country? And the next moment it is declared unreasonably, that an enormous boom is coming along—what is to be done with our prosperity? Standing actively, as I do, in the midst of a good many industries day by day, and coming into contact with a great many men who have to conduct other industries,

I am somewhat bewildered and puzzled by pictures so contradictory and so contrary to the facts as I know them.

The trade of Great Britain is neither ruined, nor is it going to boom, I think, in a few weeks' time. The trade of Britain is, and has been for a considerable time—you might say, since 1920—in a state of depression, not of ruin—a state of depression, varying very much with the industries which are involved. All industries are not bad—I am very glad to say that those I am most closely connected with are doing quite well. But if industries, like the motor trade, are doing exceedingly well, others, particularly certain sections in which we are interested in South Wales and on the East Coast—shipbuilding, steel, iron, engineering and coal—are doing badly. Now the great thing in this world, I think, is to get an analysis, a perspective. When I hear that some one has taken an order for 50,000 tons of coal, and everything is going to be happy in the garden, I like to see how many tons of coal we export and whether 50,000 tons is going to make any difference or not. That is the spirit of inquiry I recommend to you, because it is the only way by which you get any real kind of perspective. As I have said, our trade has been depressed. If I were going to give any forecast, I should say some of the causes of depression are slowly beginning to disappear, and that, generally speaking, things are rather looking better than worse.

THE CAUSES OF DEPRESSION

What have been the causes of the depression in some of these industries? how far are we responsible? what can we do? and which of the conditions are due to causes over which we have no control? Let us examine them for a few moments. One of the greatest groups of causes of our depression—of European and world depression of trade—has undoubtedly been the after-effects of the war. I was in Germany recently for some little time, and I had an opportunity there of discussing matters with people who are engaged in industry and trade. I found many of the positions which we have here paralleled there. The shipbuilding yards were empty, their steelworks were working very

much under capacity, their collieries were shutting down day by day. A great many of those conditions which we are complaining of, and which are imputed to our inefficiency, or to other original vices of the British people, you find paralleled in countries which are generally held up to us as miracles of ability. The reason is not far to seek. War is the greatest destroyer of accumulated wealth that the world knows; in a few years you can destroy the accumulated wealth of generations. War causes not only wide disappearance of wealth, but dislocation of industry, dislocation of finance. Further, by the creation of new industries in countries where they did not exist before, by changes in the political boundaries of Europe, you throw works that used to belong to one country into another, with the result that you get over-production perhaps in France to-day of steel and iron, and you may get under-production of something else in that part of Germany which is now in the possession of France.

Tearing up the frontiers of the world, particularly when it is done with very little regard for economic conditions, leaves results which it takes many years to set right. Those are problems upon which we ourselves have been able to do little. We cannot command the financial policies of other countries. We cannot command their tariffs, the most hampering and clogging of all restraints upon industries. The tariff walls and struggles of European, of central European countries, are to-day among the factors most seriously hampering the reconstitution of this country, and trade generally. Nationalistic ideas of industry, the creation of industries not because they are economically sound, but because you think you ought to have them, is another important factor which depresses our export trade. Fluctuations and devaluation of exchange—you see it now with the French exchange—we know to our cost here affect our exports day by day. It is not that people do not want to buy, but that they cannot afford to buy, that is one of our chief difficulties.

Having dealt with the position in that light, let us look back at our own country; let us see for a moment how our commerce is affected by what we have been doing and what

is still going on in this country. I am one of those who have consistently held for the last four years, and have continually said, that the financial policy of this country has been handled far too much from the point of view of finance, with too little regard for the position of industry. If I had to criticise the policy of finance experts or Chancellors of the Exchequer on the continent, I should say that they had handled their finance with too little regard for finance and too much regard for industry. There is a mean between the two, I think. We have erred in one direction, as they have erred in another. I think myself—and I think this opinion is more generally shared to-day—that the over-taxation of this country, levying a burden on industry which it has not been able to bear, whatever certain theorists may say, does affect and depress industry, and does affect and depress consumption, as does our enormous burden of local rates which are worked on a system most detrimental to the industry of this country, as you can easily see, as we work out what is happening.

THE BURDEN OF RATES

I remember very well when I was Minister of Health receiving a deputation, a very influential body of steelmakers from Sheffield. They pointed out to me what their position was: their industry was depressed, and there was great unemployment in Sheffield. What happened? The great unemployment led to a rise in the poor-rate. The rise in the poor-rate led to an increase in their burdens, and in the cost of steel. At the moment when they wanted to be able to sell cheaper, the system of rating was adding to their cost of production, and making it impossible for them to carry on business at all. In fact, in many cases it was cheaper for them to shut down and not operate the works at all, in order to escape the rates, than to operate the works part time. That does not seem a sensible system of levying your local taxation—a system by which you depress enterprise, tax activity, and subsidise inactivity, and assist those who are doing nothing.

Again, a small circle drawn around a small area is really

quite a wrong way of dealing with a large national question of this kind. The poor-rate system of Queen Elizabeth was never meant to deal with a great industrial crisis. It is because you try to make it do so that you get all these fantastic and absurd, even criminal conditions, holding down the very industries which most want to be assisted. I am more convinced than ever that it is high time our rating system should be reformed. It is high time, indeed, that those whose landed property continues, has continued, and will continue—whether trade be good or bad—in the long run to gain in value by doing nothing—that these should bear their fair and proportionate part of local taxation. Take your rate off improvements, and put it where it ought to be, and you will see in that alone a share of the revival of the trade of this country. Why, in America or Canada, if I want to put up a factory, the first thing the local authority will do will be to exempt me probably for ten years from all taxation, but here, as soon as you add another shed to your works, the first thing you find is the rate collector coming round.

THE EFFECT OF FINANCIAL POLICY

Let us pass on from the question of local to the question of imperial taxation. They both have their weight. What are the effects of the finance policy that has been carried out? You have had a steady rate of deflation. I do not want to be misunderstood. I have often found those who have accused me of being an inflationist. I am nothing of the kind. You need not be an inflationist because you do not believe in too rapid deflation. Deflation carries with it normally—and automatically must do so—a diminution of prices, restrictions of credit, a hampering effect on exports. Inflation, as we all know, is a temporary stimulation of exports, which produces for a time a false prosperity. Yet there is a medium course between those two, and it is in that middle way, I think, that we ought to have walked. We have not done so. We have over-depressed our industry, and over-depressed our exports, and as I shall point out in a few moments, it is there, really, where the shoe pinches us most.

THE FREE EXPORT OF GOLD

Having done this, what was the next step taken? It was taken this session by Mr. Winston Churchill—to my mind very rashly, very prematurely, and with very little consideration of the consequences that were going to accrue. Mr. Winston Churchill, during the last session of Parliament, announced that on the advice of his experts he was at the end of the year going to return to what is known as the free export of gold. People talk of the return to the gold standard, but that is not really the correct expression to use. The gold standard is a question of gold in comparison with your currency; it is quite a different question whether you are going to let gold out of your country in order to satisfy your exchange rates. We have resorted to the export of gold for the purpose of dealing with exchange balances. In fact, to my mind, Mr. Winston Churchill has merely exchanged a managed currency for a managed exchange, for his exchange is not the result of true economic conditions. He has had to make arrangements in America for “bearing”, in order to keep it bolstered up, and that is one of the danger points which, to my mind, wants very careful watching.

Now, what has been the result of this action? The result of this action has been one that everybody could foresee, and it is a further step in deflation. It is a further check on exports, a further assistance to imports. It has been calculated—I think, correctly—by various authorities, that one result of the return to the gold export standard, a result of the rise in the £ in relation to the dollar, is to add between 1s. 9d. and 2s. to the price of every ton of coal we export from South Wales. The result has been that some of the countries in South America, where our low exchange gave us an advantage over the Americans, have been lost to us again—owing to the action of Mr. Winston Churchill. That is one instance of many of the things that have occurred, things which have led to the cessation of the upward movement of the export trade, which was going on at the time, and to a cessation of the diminution of unemployment, and, instead, to a great increase of unemployment—temporary perhaps.

THE EFFECT ON LABOUR

Mr. Winston Churchill said in the House of Commons—I have no doubt the experts told him, and it was perfectly true—that ultimately by making the sovereign worth more you arrive at a point where your nominal wages will have to be reduced to the real wages—that is, people are really getting more money. You pay somebody 18s., but in real value you are paying 20s. What Mr. Churchill never explained was how he was going to get the workmen to realise that fact. It is extremely easy for economists to talk of real and nominal wages, with the aid of graphs and diagrams, but when the man comes to the pay-desk at the end of the week and you say, “Look here, you had £2 last week, and now I am going to give you 35s., because Mr. Winston Churchill has appreciated the sovereign,” he usually goes on strike. He is not at all convinced by the argument. That is a policy that must lead—until you have it altered—to industrial unrest. If I were running a policy which I could see was adding to industrial unrest, I should sit down and think what would happen when industrial unrest came about and be prepared for action.

The coal crisis of 1925 came along, it came slowly. It did not come in a week; we all knew about it. Everybody could see whither it was heading. It was largely produced by the financial policy of the Government, and yet it found the Government entirely and absolutely unprepared. One morning they said “Yes”, and the next morning they said “No”. They had thought out nothing. They did not seem to be able to make up their minds whether they should avoid a strike, or precipitate a strike, or do nothing. At the eleventh hour, what did they do? They threw into the balance a subsidy, which I say deliberately was not thought out, which is ill defined, which is not producing more employment, which is, like the dew, falling on the just and the unjust equally, on those doing well and those doing badly. It is directly contrary to the policy of the deflation of the gold standard, and it is a direct policy of inflation to the amount of the subsidy. It is trying to counteract, a few months afterwards, what Mr. Churchill did. Mr. Winston

Churchill will now see whether or not there will be grave trouble. When he introduced his gold standard he should have realised he was incurring the risk which he afterwards said he had to avoid. As a matter of fact, he had not thought out the consequences.

FOREIGN AND DOMINION CREDITS

Let me take another consequence—a very serious one. Take the important question of the financing of our Dominions and of foreign countries. One of the great objects of this great financial policy of which we have heard so much, was to make London once more the financial centre of the world. Well, there was some advantage in London being the financial centre of the world. But when it comes to facts, what has happened? The great Commonwealth of Australia, coming as usual to the London market for its financial requirements, has been advised to go elsewhere, from the great centre of the Empire to a great republic of English-speaking people, but with another financial complex. In fact, they have had to go from Threadneedle Street to Wall Street. Is that the method of holding the Empire together? Is that the method by which you combine to assist the men who fought with us in the last war? There was no sacrifice we ought not to have made in order to fulfil the proper requirements of our Australian cousins.

And what goes with finance? Business people who lend money, do not lend cash, but goods. Our whole great export trade in the past has been built up by the fact that we have sent our goods, our services, our accumulated capital, to other countries. If you, timidly and pusillanimously, because afraid of your exchange, refuse—and the financial people of London understand this business better than anybody in the world—the opportunity of placing credit which will be followed by British goods, you are deliberately depressing the export trade of this country.

UNFAIR ATTACKS ON EMPLOYER AND WORKMAN

I said just now that I do not think conditions are as good, or as bad, as people suggest. There is, however, one thing I am rather tired of. I am a little tired of the allegations of idleness and incompetency on the part of British manufacturers and of the British working man. It is very fashionable to explain away these difficulties—many of which have been caused by the financial policies of Governments—by throwing rocks at those who have for years guided the industries of this country. But what I would like to ask is this: "How is it that these same people have been able to build up the greatest industries—the greatest shipping, the greatest manufacturing, the greatest banking business which the world has ever seen—how is it if they are so incompetent and stupid now, that they were not so incompetent and stupid a few years ago?" And how about our workmen? I still think that if you analyse the figures—not rates of wages, but continued output—the British worker at higher wages is still a cheaper man than most people on the Continent at a lower wage. To what is that due? It is due to his higher standard of efficiency in the work he turns out. British industry has gone through great trials in the last few years. It is characteristic of the British people that it has held out at all. Whenever it has put up its head, some financial expert has immediately clubbed it. Whenever we have seen a little financial expansion, somebody said: "We are going to have a boom, we must stop it coming". In spite of all this, it has fought its way through, settling its difficulties—both workmen and employers fighting through to a better time.

That does not mean there is nothing to be done. I have now had a pretty long service in the captaincy of industry, and I have been associated with companies I knew in my boyhood. In all these many years, going on for two generations, there is no single company in which efficiency has not been improved. I was saying only the other day that there is to-day even more room to improve efficiency than there has been in the past. Efficiency is not a thing of a moment, or of a year. It is a thing which has to go on continuously, scientifically, without fail, day by day, week by week, month

by month, year by year. In order to make for that efficiency, there are certain conditions which I think are fundamental, and I want to say a few words about that to-night. There is a trinity in industry—the trinity of capital, management and labour. Without the three, you achieve nothing. One cannot do any good without the other. Take away Management, and Capital stands there idle and Labour undirected with nothing to do. Take away Labour, neither Management nor Capital can create anything. Take away Capital, neither Management nor Labour can produce, or create the factory which is to make the goods. These are the three parts, and the one thing that makes industry, and unless they work in harmony, unless they pull together, unless they are anxious to ascertain, and obtain, the best results for the industry—I am speaking of industry as a thing by itself, practically a craft of its own—you cannot achieve a successful result.

INDUSTRY GENERALLY OWNED

All the attacks which are made, and the attempts to make the workman imagine that he is being despoiled and oppressed, are nonsense. All the attacks on the capitalist—represented, very foolishly, as the gentleman who has grown somewhat too stout and over whose expansive waistcoat is a large gold Albert, out of fashion years ago—all these attacks are entirely beside the point, and no longer represent the condition of modern industry. Our industry does not consist to-day of a few employers domineering thousands of men. Industry to-day is generally owned, and owned in small sections largely by people much of the same class as the workmen. Let me give you two illustrations, and two only. Take the Great Western Railway—because you all know the G.W.R. The G.W.R. has 104,000 shareholders, and the average holding is £1000. If you nationalised, you would not affect the position very much as far as the holdings are concerned. They would be so many millions more people and the holdings would be very little. I have just had particulars of another company, in which I am interested: Brunner, Mond & Co. Most people have an idea I own the lot. I wish I did, but as a matter of fact it is a company

of 32,000 shareholders, who pay me a quite inadequate salary, and 1300 of those shareholders are people employed in the company, and the average holding of all the shareholders is £340. It is very instructive and useful when you meet some of the people who are shouting, "He's a capitalist". You must point out the man with £340 worth. He cannot afford to buy a Rolls Royce car. I am stressing this because I would point out that the capitalist is a widespread person—not necessarily a man of great wealth.

And as to management: it is the nerve centre. The manager's position is that of arbitrator in more senses than one—an arbitrator between the claims of the capitalist, who has entrusted him with the money, the claims of labour and the claims of the public. He is not there solely to look after the interests of one lot of people—his real function in modern industry is to try to act fairly to all those for whom he is responsible. And I think myself that it must be more and more recognised as we come to the position of labour as co-partner in industry. All these old terms of employer and employed, master and man, are not applicable to our modern conditions. We are all employees. Every director of a company is an employee of the shareholders just as much as the man who is delivering coal at the boiler, and therefore all these terms which imply a kind of difference between one lot of people and another are out of date.

AN INCALCULABLE ASSET

We are really all workers of different ranks in a common cause. It would be a sad thing if, after two generations of education, the working man of to-day stood exactly where he stood before, if, as the results of all the education he has acquired—for modern industry asks more and more intelligence of the worker as it is more complicated and eliminates muscular effort—he took no more interest in the business and other concerns of the works than two generations ago. He has advanced, or his position is a bad one. He is interested; he criticises management; he criticises policy. He must be heard willingly. It is our business to keep him better informed; and it is not our business to treat him as

somebody who comes week after week and takes away a pay ticket. He wants to know why he cannot get more, and he must be told. That is why I recognise the need of joint councils. There they have found a remedy.

There is one asset which you cannot find in a balance sheet, and no accountant can tell you how much it is worth. I cannot express it in £ s. d., but I am certain that it is worth a great deal. That is the asset of goodwill, the asset of willing service of people who are ready to help. And that is why I believe most strongly in co-partnership in a broad sense, not merely profit-sharing—still more, cost reduction—not merely that, but works councils. Frank expressions of opinion and getting as much team spirit into a place as you can. That can only be done if the atmosphere of suspicion disappears. I think it is a terrible thing, in coming as I have done rather recently into the South Wales mining industry, to find the terrible atmosphere of hostility and suspicion which seems to exist in that industry, and to which I am entirely unused in other industries with which I have been associated. It is no use: you cannot remedy the very difficult conditions in this industry, competing as we are with new sources of power and heating, unless we all pull together. It is not by the destruction of one or the other that we can make anybody better off. One of the most important functions of any party in the State at the moment, is the creation of machinery for co-operation and goodwill.

I am an individualist—I do not suppose that there is a stronger individualist in the country. I believe that individualism allows the greatest possible latitude for the development of human beings which is to the general advantage. But I am not an anarchist. I do not believe that the individual has any right in a civilised community to carry himself or his powers to the point of being injurious to his fellow-citizens.

A LEAGUE OF INDUSTRIAL PEACE

We have recently had a great conference, a great peace at Locarno. Personally, I am glad to think it appears, as far as we can judge, that a great step has been made towards the peace of the world. I personally very readily tender my

appreciation and thanks to Mr. Austen Chamberlain for the manner in which he has represented this country at this very important conference. But does it not seem to you an appalling thing that, while at Locarno you have had the representatives of nations which have just been through a most bitter war, with all the rankling feelings which war must leave behind—that you have had an assembly of nations, different nations, different races, different creeds, with many conflicting economic interests, with many hostilities, who yet have managed to conclude a peace arbitration and treaties of peace; while, looking around our own country, we see great industries which seem incapable of sitting round a table and concluding a treaty of peace between people of the same country, speaking the same language, even going to the same chapel?

We have a League of Nations now at Geneva, a League of Nations which makes for peace, which has great powers, which can enforce its commands with sanctions. Why cannot we have a League of Industrial Peace in this country? Why cannot we enforce its sanctions? We no longer allow conflicting bands of citizens to fight along the highway, to obstruct peaceable people going along the road. That has disappeared centuries ago, but every time a great strike convulsion takes place in this country and the majority—I do not care which side—objects to conditions, they hold up—what? Not their industry only, but the country—millions of people who have no interest in the dispute, millions of people who have no opportunity of intervening in the dispute. I say that is unworthy of a civilised country. I say we cannot allow it to continue. It must be brought to an end. Trades Union leaders have always been very much opposed to compulsory arbitration—the very same men who on the Labour platform always shout for arbitration between nations are the very same who refuse arbitration at home.

Well, we cannot continue on this line. We should take a lesson from some of our Dominions. We should follow the lines of Australia and Canada—the Court of Conciliation in the one, and the Industrial Disputes Investigation Act in the other. You will be told they have not always succeeded. No, they have not always succeeded, but they have succeeded

quite often enough to make it worth our while to go in the same direction. People must be brought before the bar of public opinion. They have to justify their cases there, and if they can justify them they will have a lot more right to go into the kind of spasmodic efforts which disarrange our industry, damage our working classes and really produce chaos in our midst. Let us extend, by compulsion if necessary, all these Whitley Councils. Many do not like them. I have seen them installed and work very well. I remember when at the Office of Works we started one, it was feared that it would subvert discipline and lead to chaos. As a matter of fact it led to the cessation of a great deal of friction by the friendly talking over of many points causing irritation, and even the most fire-eating Reds who came there were much more reasonable than you would have expected when you got them to the table. At any rate, when I presided I got on very well with them.

SOCIALISM BURIED

We hear about security for the farmer, but we also want more security for the industrial worker. I think there are steps to be taken in that direction. There is before us a big and broad avenue of practical methods and steps by which we can go forward and vastly improve the position of the industrial worker, and vastly help the industries. Constitutionalists must not be afraid of advocating their remedies because they are not accepted by the Labour Party or by Socialists. If there is one thing in the world which is dead in this country it is Socialism. It was buried at Liverpool—buried deep, deep down. You have only to read Mr. Ramsay MacDonald's speech to see. And why? Because ever practical man knows, and every man who has had the responsibility of government in this country knows perfectly well in his heart, whatever he may in theory think about Socialism or speak about it, you cannot apply the system. And so you have to go back to gradualism. The Red grows thinner. Like a chewed bit of sweet a child sucks in its mouth, it gets pinker and gradually white and thinner all the time. Therefore, it is our opportunity, if we have the

courage to take it, to preach our gospel to the country. There is one gospel to preach to-day; Conciliation, Co-operation, Recognition—these are the lines on which we want to go, and we have to go on and not be timid or frightened.

THE CRIME OF UNEMPLOYMENT

There is just one more subject on which I want to say a few words, because I feel it interests you and a great many more outside, that is the question of unemployment. I hope that some of my friends are not thinking I am beginning to be a bore on the unemployment question, because I have spoken about it so often and at such length. Mr. Winston Churchill, in his speech, made some remarks on unemployment which I think are worth noting. He said unemployment was a most important index of our national life. I quite agree. He then said unemployment was not really increasing—it was only 50,000 more than at this time last year; and that was due to the depression in the coal trade. If Mr. Winston Churchill had financed prosperity instead of financing depression he would not have had 50,000 more colliers unemployed—he would probably have had 100,000 less. But what I want to draw attention to is the amazing note of satisfaction in his remarks. It has come to be looked upon and to be always taken as normal, if over one million of our fellow-citizens have no work to do, and receive unemployment benefit and poor law relief every week. If their numbers decrease 30,000 or 40,000 we ought apparently to be very satisfied. To-day about 11·5 per cent of the total on the insurance register are unemployed. And that is not all. Well—I cannot share his complacency. I have not been able to share it for four years. I have ever since I left the Government, in which I had something to do with this question at closer quarters—insistently preached—and I shall continue to do so—against the crime which is being committed in this country in not dealing with the question of unemployment in a bigger way.

THE VIEWS OF FOREIGN AND DOMINION STATESMEN

There is no statesman in our Empire, or out of it, who can understand the course which we are pursuing. I have had occasion to talk to the Premiers of our Dominions, I have recently had occasion to talk to the Finance Minister of France, and I have talked to big financiers and economists abroad, and they say they cannot understand how a country like Great Britain can leave a million people doing no work and receiving no money for services. Cannot you see (they say to me) the demoralisation that is taking place. I remember the Premier of Ontario telling me last year in Toronto that they had a large volume of unemployment for a relatively small place, and that they laid down the principle that every man should have a job, whatever kind it was, and that no man should receive a penny piece who did not do any work. Why are we so timid? Are we a country which has not got any means, any credit, any possibility of using sums for carrying out work? We are not. We are a country with good credit, plentiful money and plenty of things to do, but there is the dead hand which I always found. They say, "This scheme won't pay interest"; "This scheme won't pay sinking funds". But it would save hundreds of thousands from a degradation that is far beyond sinking funds.

A GREEK EXAMPLE

When I was in Greece this spring I was very interested. It is a small country, only a few million poor people living on the rocks, but owing to the war with Turkey they had thrown into that small country nearly a million refugees, homeless, houseless, arriving—as I saw—with a few bits of furniture and some bedding, ruined, with tears streaming down their faces. What did the Greeks do? They borrowed money. Where did they borrow? In London—in order to build houses and develop land for these people. We could lend the Greeks money for their refugees; we could not lend any money for our own unemployed. What an extraordinary people we are! Supposing you had a million English,

Welsh or Scotch men born out in Canada or Australia, dumped on these shores, would you not think of doing something, finding something, creating something in order to provide a living for them? But because they are walking your streets every day, because you know them and have seen them going to the Labour Exchange month by month, year by year, you say, "Oh, Bill is getting the dole—to play golf". It is this terrible want of imagination that I cannot understand. We all know there are thousands of boys and girls of the age of eighteen and upwards who have never done a day's work yet, and all getting money and spending it week by week. How are you going to make men and women and citizens of these? You have great reserves, an army of labour, deteriorating. They restarted some works at Sheffield, and the furnacemen could not do the work because their muscles had gone. The finest craftsmen of England are either leaving our shores or getting useless because you have not the imagination and courage to do something.

THE BOILERMAKERS' SOCIETY AND THE PRINCIPLE OF THE SCHEME

What are we going to do? Well, I have put one scheme before the people of this country. Whatever its faults may be, whatever criticism has been made, it still stands, and it would remedy some of these evils. I was encouraged in seeing that the Boilermakers' Society is the first Trade Union I know of agreeing to the same idea I have been advocating—that it is better to subsidise work than subsidise idleness; that it is better to get workless men back to work than to the workhouse; that if you can only bridge the gaps which exist between demand and production you can stimulate interest and create industry.

Take the local authorities. My scheme would apply to them. Take public utility societies, take gasworks, electric works—works of that kind. My scheme would apply to them. I have at home letters, very interesting letters, from engineers, gasworks, public authorities, telling me how many more people they would employ if my scheme were put into operation. Every man who is taken off the dole

and put into work is going to help other people to come off the dole. If you throw a stone into a pool, from the great splash you get ring after ring going till finally you can scarcely see the edge of them. So, if you start industry and get it going, shipbuilding will help steel, steel will help coke and coal, and when they all get going, their people making again a reasonable wage, adding to the consuming capacity of the country, they will help still other industries—just as they found in Switzerland, where they adopted a similar system in their export watch industry when it was in its death throes. Not only did they break the unemployment in that industry—they diminished the total unemployment in the country by over 25 per cent. I say, let us take up this scheme. Be not afraid. Do not let us be frightened by the formulas I have heard—people have said, “What is the use of your scheme; you are only going to take work from one firm and give it to another”. The Minister of Labour said in one speech he does not understand business. If he did he would know there is not one kind of business in the world, and business is not a static thing; it is dynamic. There is no “X” business in the world. It is “X” plus “Y” in the world, and that is the business I want to get. The fact that “A” has an order does not mean that “B” will not get one. Make a new order for “B”. What is happening now is that the orders are passing your door, neither “A” nor “B” is getting them, and the workers are walking your streets.

THE PUBLIC CONSCIENCE OF THE COUNTRY

That is really why I am getting tired. The Government said, “You want to subsidise labour”. Since the coal subsidy they cannot say that. I want to subsidise something that is to give employment. They have not given a subsidy to employment. Their scheme works whether anything happens or not. My scheme would cost the taxpayer nothing, because the money is already being spent to-day. In three years we have spent over 300 millions in one way or another in paying to keep the unemployed walking the streets, and we have nothing to show for it. That is neither humanity

nor business—it is folly. And if Mr. Winston Churchill is satisfied, when you still have a million people unemployed in this country, because there are 40,000 less one week than another, I am not, and the public conscience of this country ought not to be satisfied.

The Government has got to justify the existence of the present order of society. I hate Communism; I am for stamping out sedition in our midst. But stamping out is of no use unless you do away with the cause of, and the ground for this poisonous doctrine. Our contented, industrious, happy working classes lend no ear to the leaders of the Third International at Moscow. But our desperate, depressed man who has been knocking at the door asking for a job, whose everything has disappeared—finding no way out, how can you expect him not to listen to any one who tells him any story, however improbable or wicked it may be? Therefore, it is not a question of economics. It is no mere question of money. It is a fundamental question of showing these people our goodwill, and of doing something in order to make steadfast the structure of our social system. The storm of revolution can be stemmed by the laborious building of the columns of progress.

THE SPEENHAMLAND LEGEND

FOR nearly a century the Speenhamland system has been travestied as a capitalistic attempt to pauperise the working classes—by an increase of profits. Taking advantage of the depression caused by a great war, the masters are alleged to have used public funds for their own gain, and amongst other results it is claimed that the most important effect was a general depression of the wage level throughout the country. If, however, the Speenhamland system is judged by the body of evidence which was given before the Royal Commission on the Poor Law, corroborated by other contemporary evidence, it will be found that the true historic view is very different from the case urged by propagandists.

The allowance system extended for nearly forty years, and during that time its first character and intentions were changed more than once. The year 1795 was the birth of the system and found England in the throes of revolution; concurrently with the war with revolutionary France, an industrial revolution and an agricultural revolution were in progress. There was dislocation of accepted habits and traditions, on all hands prices were rising, but wages failed to rise in proportion. The problem which confronted the practical men of the time was how the agricultural labourer could be provided with an adequate subsistence when wages were insufficient. The ready solution was met by the allowance system. A scale was formulated by the Berkshire magistrates which set out what they considered ought to be the remuneration of the labourer according to the price of wheat and the size of his family. Where wages were below standard the overseers of the poor of the separate parishes were to make up the difference by allowances from the poor rates. The necessity for the movement was proved by the

rapidity with which the system spread, for, as Hammond writes in his book on the Village Labourer :

The allowance system of the Speenhamland magistrates spread like a fever, for while it is true to say that the Northern Counties took it much later and in a milder form, there were only two counties still free from it in 1834—Northumberland and Durham.

And concurrently with the rise in prices an unemployment problem had developed from two main sources—firstly, the new agriculture with its system of large farming, the enclosure acts, the consequent loss of common rights to the cottagers and labourers, and secondly, by the new industry. For the phenomenal succession of inventions of machinery with a consequent establishment of the weaving, spinning and iron industries in certain centres in the north and midlands, led to a general decline of the old local industries in the south. There was hardly a district in the south that did not suffer from the competition of machine-made goods.

THE ROUNDSMAN SYSTEM

In the eighteenth century even general problems were treated by local remedies, so the chief of these remedies was palliative. Under the Roundsman system, surplus labourers were sent “ round ” by the overseers, to all the farmers, who were offered their labour. The farmers gave what they could for the labourers, who being unnecessary to them were paid only a very small amount, the wage being supplemented by the parish to enable the pauper to subsist. This was the chief means adopted in the attempt to solve the unemployment problem, and the object was certainly not to benefit the farmers, for the plan was by no means always popular with them ; sometimes it had to be forced on the occupiers of land. Indeed, the real object of the Roundsman system was to ease the poor rates ; the parish also feared the idler pauper, who became demoralised by doing nothing, and it was felt that such men were the raw material for revolution. But the system gave no incentive to work, as a “ Roundsman ” got no more in remuneration than the pauper got in relief.

Moreover, in the early years of the war the unemployment was not nearly as acute as it became after 1814, and the magistrates who adopted the Speenhamland system considered they were merely providing aid during a temporary dearth of provisions and tiding over a short period of distress. The aim would have been achieved, for wages tended to rise, if it had not been for the concurrent distress of unemployment. The war held the system in check, as Lord Ernle writes :

The evils of the allowance system were held in check until 1813. So long as the war and the high prices continued the demand for labour was brisk, distress practically confined to those who suffered from enclosures or from the decline of local industries other than the cultivation of the land. Except for winter unemployment the allowance system was sparingly used.

DISTRESS AFTER WATERLOO

With the coming of peace came the real unemployment problem. Intense distress was caused after 1814 by the suddenness of the change from war to peace. In the eighteenth century, rise of prices and increase of unemployment had been a gradual process. Before Waterloo, high prices were an influence of distress ; after Waterloo, low prices were the cause of distress. The industrial revolution had annihilated the industries of the southern counties ; manufacture had taken its permanent abode in the north and the midlands. During the war, farmers and landlords had acted as if a period of great demand and artificial prices was to last for ever. Rents rising enormously, many farmers had undertaken extensive improvements or conversions without sufficient capital ; many had progressed on borrowed capital. The Committee on Agricultural Distress of 1833 reported :

In the counties of England where yeomen heretofore abounded, occupying their own estates, which estates in many cases had been transmitted from father to son, a great change of property has recently taken place. The high prices of the last war led to speculation in the purchase, improvement and enclosure of land ; money was borrowed on the paternal estate for speculations of this nature,

which at the time were not considered improvident. Prices have fallen ; the debt still remains, or the estate has changed owners, and the interval between the fall of prices and the adjustment of charge and expenditure to the altered value of money has been most pernicious to this body of men.

The soldier and sailor returned home to flood the labour market, the price of corn went down to an alarming extent, farmers were ruined or had to economise rigidly in wage bills. A large proportion of the inferior soils brought under cultivation during the war was left idle ; concurrently with an increased labour supply, there was a decreased and decreasing demand. For, though the farmer had obtained high prices during war time, his gross expenditure had been heightened to a similar degree ; while wheat had not quite doubled, wages had risen by two-thirds, national expenditure had multiplied fivefold, the poor rate had quadrupled and the county rate risen sevenfold. As time went on, the farmer's position worsened ; prices were too low to bring in sufficient return to induce him to cultivate all his land, and for relief he went to his labour charges, as the other charges, rates, taxes and rent, were much less flexible, so wages were depressed and labourers discharged.

Over and above these causes of distress the inclemency of nature, drought, bad crops, wet seasons, rot, aggravated the troubles of the agricultural industry.

THE SPEENHAMLAND GOBLIN

The cumulative effect upon the labourer was disastrous. In the new era of competition and modern industrialism it was the labourer who was the first victim, both of fluctuating prices and of the political economists. His existence was precarious, his employment intermittent ; pauperism was the only alternative. The customary pence his wife and children used to earn by spinning and other domestic occupations were no longer available to supplement his reduced wages ; the relief which the garden and a cow on the waste used to provide had vanished. The labourer was no longer a valued member of the village community, but a spar tossed upon the ocean of transition. The condition of the country

occupied the minds of the whole of the educated part of the nation. Schemes of relief were plentiful, and there was no lack of intelligent consideration of the subject. The situation was one unprecedented, and the whole problem most unfortunately entangled with the rigid laws and often inhuman judgment of the political economists. The new school was engaged in evolving a remedy for the evils, but turned its attention towards the easier plan of attacking the only remedy, of any value, adopted. Upon this is directed all their scorn, sarcasm and indignation, meanwhile completely forgetting the real problem at issue. The attitude of the Commissions of 1834 cannot be better summarised than in Hammond's words :

The Commissioners in their simple analysis of that system (Allowance) could not take their eyes off the Speenhamland goblin, and instead of dealing with that system as a wrong and disastrous answer to certain difficult questions, they treated the system itself as the one and original source of all evils. In 1795 there was a fear of revolution, and the upper classes threw the Speenhamland system over the villages as a wet blanket over sparks. The Commissioners merely isolated the consequences of Speenhamland and treated them as if they were the entire problem ; and, consequently, though their report served to extinguish that system, it did nothing to rehabilitate the position of the labourer, or to restore the rights and status he had lost.

PROPOSALS FOR THE PROBLEM

Those who were in direct touch with the crucial problem were not without suggesting practical proposals, but such schemes as spade husbandry and allotments only touched the surface of the problem. The old remedies of the Roundsmen system and parochial work were equally inadequate. There was an inherent difficulty in any application of the old Poor Law Act of Elizabeth. It had not been framed to meet anything like the conditions of affairs in England two centuries later. It had hardly considered the possibility of unemployment in the staple industry—agriculture. The one valuable remedy came from an old practice which had been conceived in an age dissimilar in many respects, and to solve a problem quite different. The allowance system, born

to tide over a time of enhanced prices and applied to subsequent years of scarcity and famine, is now used as a means of relief for the impoverished state of the agricultural classes. This was the only system to which recourse could be had when distress followed so rapidly the conclusion of the long wars, and it naturally spread again with amazing rapidity.

But the peril of imminent revolution which had occasioned the magistrates to adopt the Speenhamland system in 1795 was minor compared with the perils to the State in the year after the peace. While it is true that the people came to regard their relief as a matter of right, there is much to be said for the view that it was a compensation for rights which had been lost by enclosure. It was founded upon the old conception of the village community that the local basis of administration would still survive the evil times. When the grave peril of the nation is considered, it is more a matter for wonder that any method of relief was sufficient to keep famine and revolution at arm's length, rather than that the weakness of the system led to some abuses, and one of the points which has been most generally ignored by critics of the allowance system is the fact that it did actually provide capital for the impoverished farmer, which helped to check the process of decultivation. The pressing need of the moment was to provide means to the farmers by which they might employ the very large surplus of labour which was becoming demoralised by idleness. Population was increasing at an alarming rate without any corresponding increase in cultivation. A witness before the Committee on Labourers' Wages asserted that "it would be quite impossible that labourers might be made independent of the poor rates and parish relief by any measure; the number of persons out of work is so great that if it were not for the poor rates, the price of labour would fall far below what a man can live upon".

METHODS OF APPLICATION

There were various methods by which the general principle was applied, these methods being of varying merit according to whether the amount of work actually obtained

for the wages actually paid was economical or not. The Labour rate was the final and natural development of the poor law system, and was defined by the Commission of 1834 as :

An agreement among the ratepayers that each of them shall employ and pay out of his own money a certain number of labourers in proportion, not to his real demand but according to his rental or his contribution to the rates, or to the number of horses he keeps for tillage, or to the number of acres that he occupies, or according to some other scale. Where such an agreement exists it is generally enforced by an additional rate imposed either under authority of 2 and 3 William IV., or by general consent, on those who do not employ their full proportion.

But for the greater part of the period the Labour rate was an agreement among the farmers, and it did not increase the sum total of poor rates. Its general result rather was the lowering of rates very materially, and it was the most efficient method discovered in that era for dealing with the unemployment problem.

According to some fixed standard, the occupier had to provide a certain sum of money towards the relief of the unemployed ; he could choose himself whether he paid this in the form of wages or to the overseer as rates. The farmer was thereby enabled to get some return for his money. If he adopted the first alternative, he could make his own bargain with the labourers to secure the most industrious and efficient at higher wages, and the less industrious and efficient at lower wages. The first and most obvious of its effects was a lowering of the rates and the successful diminution of unemployment, with consequent amelioration of the character of the poor. In 1834 a petition was presented from Justices in Surrey praying that :

The Act of 1833 might not be abandoned, but re-enacted. Such parishes as had availed themselves of the Act had withdrawn labourers from degrading pauper labour to their natural employment. The cultivation of the land was greatly advanced, and labourers rendered contented by increased wages and more congenial avocations ; also, the poor rate had considerably diminished. In the parishes where the Act had been adopted, the monthly average number of paupers was reduced by 290 and the rates by £400 a month.

RESULTS OF SPEENHAMLAND

Even the Report of the 1834 Commission is unable to assert that these claims are unfounded, and limits its criticism to attacking the incidence and injustice of the system. In all the circumstances, while there may have been local injustices, on the whole, in the difficult circumstances of the time, the plan was equitable to the farmers.

On the labourers' part they received enhanced wages ; the industrious were rewarded, they were occupied on profitable and congenial work and not wasting their time on useless parochial work, and they were therefore generally favourable to the scheme. The effect also upon the characters of the labourers was very beneficial, as even the Commission of 1834 has to admit :

There appears no doubt that the adoption of a labour rate has, in many instances, produced an immediate improvement in the condition and character of a portion of the labourers. The labourer now finds little difficulty in procuring work, and generally gets better wages than before.

It would not be unfair to say that the chief objection of the Commissioners to the system was that they had decided on radical amendments in the poor laws, according to the first principles of abstract political economy and according to their own pre-conceived notions, and that they were very much annoyed that there was in practice a plan which was eminently successful, which did not fit in with their ideas. In the words of a contemporary writer :

The poor law Commissioners in the enquiries they are now prosecuting to elicit information on the state of the poor do not appear to have altogether correct views of the nature of the relief required. Their queries point principally to the more economical maintenance of the poor, whereas their chief object should have been to ascertain whether any new sources of profitable employment could be devised or any means suggested for a more equal distribution of labour, or for increasing demands from the present sources. Had that course been pursued, it might perhaps have been seen that the able-bodied poor may yet be supported by their own industry and the present taxation on the other classes of the community greatly reduced.

Nor must it be supposed that the Labour rate was general in its application throughout the counties of the country. Though it is generally true that the system had spread over every county south of the line drawn from Gloucester to Hull—in other words, over the richest agricultural districts of the kingdom—there was a clear dividing-line in the incidence of distress between north and south. Nor is it difficult to account for the comparative prosperity of the north. The purely agricultural districts were much less densely populated, and the old customs in farming were still maintained. Wages were paid partly in kind, various allowances of provisions were made, and the labourer generally given the right of keeping a cow and cultivating plots of land. The habits of the people were more frugal, and housewifery generally superior. The close proximity of manufacturing districts necessitated higher wages. The agricultural labourer helped to swell the population of the industrial towns, causing in the rural districts an increased demand for labour and a corresponding increase in wages. The whole of the north was not equally prosperous. In Lancashire there was terrible distress caused by unemployment, and, as in the south, the allowance system was also the remedy applied. The introduction of the power loom had thrown thousands of handloom workers out of employment. There is no doubt that the use of the system in Lancashire and elsewhere was not only absolutely necessary to preserve the people from starvation, but quite beneficial in its effect upon the character of the workers and the rate of wages.

EXAMINATION OF CRITICISM

So much for the main results of the system. If the views of the critics are examined, it will be found that, amongst the incidental results, they point chiefly to the alarming increase in the poor rates. That the poor rates did increase cannot be denied, but the increase has been greatly exaggerated. There is much evidence to prove that rates could not have been cut down much more than they actually were, under the conditions which prevailed at the time, except by more intelligent administration, for as the burden of the poor

became more oppressive, "the J.P.'s and overseers steadily cut down the standard of life allowed to the poor until the greater part of the agricultural proletariat was barely existing on the verge of positive starvation". Moreover, it was the people who paid the rates who largely benefited—from the allowance system.

Charges of dissoluteness and crime against the character of the poor were commonly made. It is impossible to disentangle completely what is due to the great changes in agriculture and what is due merely to Speenhamland, but it would be difficult to over-estimate the effect upon the moral character of the poor of enclosures and the loss of by-occupations of the labourers. Lord Ernle finds that the strongest argument against enclosures was the material and moral damage inflicted upon the poor :

Contemporary writers who comment on the increasing degradation of the labouring classes too often treat as its causes changes which were really its consequences. They note the increase of drunkenness, but forget that the occupation of the labourers' idle moments was gone ; they attack the mischievous practice of giving children tea, but forget that milk was no longer procurable ; they condemn the rising generation as incapable of farm labour, but forget that the parents no longer occupied land on which their children could learn to work ; they deplore the helplessness of the modern wives of cottagers who had become dependent on the village baker, but forget they were now obliged to buy flour and had lost their free fuel ; they denounced their improvident marriages, but forget that the motive of thrift was removed.

It has been very frequently asserted by modern writers that the consequences which followed the allowance system was that the natural rise of wages was checked, but it is possible to contest this assertion by the figures of wages between the years 1824 and 1832, and during this period the depression in the agricultural districts was not so acute, and moreover it had lost the force of being a sudden blow ; the distress had, in other words, become more or less normalised or stabilised. In the south, with the exception of Lincoln, which was enjoying a period of prosperity, in the counties without Speenhamland, wages did not rise quite so much as those with. In fact the average increase of all the counties

mentioned as being specially affected by Speenhamland is 21 per cent, while the average of those free from it is only 19 per cent. In the northern counties it is universally admitted that the lot of the agricultural labourers was much more prosperous, and therefore Speenhamland had not penetrated to any appreciable extent. In the majority of the northern counties there was, between the years given, an actual decline in wages.

SPEENHAMLAND OR STARVATION ?

It is therefore not difficult, in view of the evidence, to appreciate the real necessity and value of the allowance system in the economic condition of England a century ago. It helped the farmer with capital at a time when lack of capital and low prices had led to a serious under-cultivation, which threatened the safety of England and caused a very serious unemployment problem. By the system the decultivation peril was checked, and the farmer was enabled to keep under the plough land which would otherwise have become barren again. Without the system, the labourers' lot would have been unbearable, and at the lowest estimate of its value it was instrumental in preserving the labourers from starvation and rebellion. It was a real attempt to provide profitable employment, and in many cases where the Labour rate was adopted, it was an eminently successful and well-thought-out scheme. In districts in the manufacturing areas of Lancashire and elsewhere, it was of inestimable value in helping the manufacturers to tide over their most difficult periods. Its supposed evil effects upon the characters of the poor has been exaggerated. It would have been more advantageous to look for the really fundamental cause of demoralisation in the mighty revolutions which were transforming both the agriculture and the industries of the country, than to the only remedy which met with any real success.

The opinion of contemporaries upon the alleged effect on wages, as on most matters connected with the system, were incorrect, and were based rather on the ephemeral theories of their perplexed brains than the solid foundations of fact. None of the other schemes of relief were at all adequate to the

grave problems they were intended to solve, in the words of one of the most judicious observers of that time :

The general fact is that the whole people, which would otherwise consist of a portion of flourishing and independent labourers and a portion of starving individuals, contains a reduced proportion of independent labourers, a great portion of labouring paupers, and nobody starving. In this way the poorer classes as well as the richer contribute towards preventing the starvation of the poorest.

THE UNEMPLOYMENT PROBLEM

AMONG the most pressing problems which have afflicted successive Governments since the war is that of unemployment. Successive Governments have all endeavoured to grapple with the problem, without providing any real remedy. In 1922 I was Chairman of the Cabinet Unemployment Committee, and the unemployment position was then even worse than it is to-day. The country was faced with a total of more than two million unemployed; that figure has, happily, been halved, but the present position is still serious enough, as a glance at the unemployment figures will show that, ever since the end of the war, the total of unemployment has not been less than one million, and throughout most of the period has been static at between one and a quarter to one and a half million.

When Chairman of the Cabinet Unemployment Committee, I put forward certain proposals for alleviating the unemployment situation. The scheme was submitted to my colleagues in 1922, and it was still under consideration when the Government went out of office. Before outlining these proposals, a useful purpose would be served if the course of unemployment before, during and after the war were outlined.

UNEMPLOYMENT BEFORE THE WAR

For the fifty years before the war, though the detailed information is not exhaustive, there are sufficient statistics available to denote the main trend of unemployment. There are available for the period 1871-1914 the percentages of those unemployed in Trades Unions. During the whole of this period, only in two years did the percentage of unemployment exceed 10 per cent—in 1879 at 11·4 per

cent, and in 1886 at 10·2 per cent. The lowest recorded figures were, for 1872, at 0·9 per cent, and 1873 at 1·2 per cent. The course of unemployment throughout the period seemed to run in cycles, in which 1879, 1886, 1893, 1904 and 1908 provided the apexes of the graphs, and 1872, 1882, 1890, 1899, 1906 and 1913 the bases of the graphs. The bad years came at periods with more or less regularity; they were led up to gradually and progressively, and the subsequent improvements took place gradually and progressively.

If the main group of industries are considered, it will be found that, as a broad generalisation, it is true to say that, when the general percentage was worse, the percentage in the engineering, shipbuilding and metal industries exaggerated the general depression; that usually the depression in the building industries followed, but was generally less than the general depression; that the printing and bookbinding industries seemed to have little, if any, relation to general depression, but were fairly consistent in their percentage of unemployment; while all other trades included in the return (and these included such vital industries as coal-mining and textiles) followed the general curve, but on a much lower level. If the series of figures for the various branches of the engineering, shipbuilding and metal industries are followed in detail, it will be found to be no exaggeration to say that unemployment in these industries was always a concomitant of general depression, and that when general depression took place, the depression in these industries contributed largely to and exaggerated the final result. Shipbuilding, iron and steel, and, in a lesser degree, engineering, throughout the period under review, were basic industries. When they were depressed, the whole of industry was considerably depressed. When they were prosperous, the whole of industry was equally prosperous.

UNEMPLOYMENT SINCE THE WAR

During the war period unemployment was practically non-existent. The year 1914 opened with an unemployment percentage in Trade Unions of 2·5 per cent in January. In August the figure rose suddenly to 7·1 per cent, the

result of the uncertainty and preliminary confusion into which the outbreak of war thrust the industrial community. From that figure it decreased to 2.5 per cent in December, and the average figure for the whole year was 3.3 per cent. The years 1915-18 established a record in low percentages of unemployment. In 1915 the average for the year was 1.1 per cent; in 1916, 0.4 per cent; in 1917, 0.65 per cent; in 1918, 0.8 per cent. In no month during the whole period did the percentage exceed 1.9 per cent (January 1915), while the lowest recorded figure was 0.3 per cent, which is found for several months. Once the Armistice was signed, the unemployment figures rose, from 0.5 per cent in November 1918 to 2.8 per cent in March 1919. The average for the year 1919 did not exceed 2.4 per cent, while for certain months of 1920 the figures are comparable only with those of the war period. Starting with a figure of 2.9 per cent in January, it had decreased to 0.9 per cent in March, while the average for the year was only 2.4 per cent.

After the boom of 1920 came the fearful depression of 1921, when the average figure for the year was 15.3 per cent. The figures from 1921 are more conveniently considered separately, as from January of that year there are available the official figures of the Ministry of Labour, consequent upon the application of the Unemployment Insurance Act. It will suffice at the moment to emphasise the great difference in the figures of the year 1920 and 1922, and to point out that the appalling unemployment which has persisted almost ever since 1921 is brought into all the more powerful relief by the abnormally low figures of the war period.

If the detailed statistics for Great Britain alone (excluding Northern Ireland) for the five years which followed the passing of the Unemployment Insurance Act are considered, it will be found that the highest recorded figures are in May 1921, when there were 2,558,190 unemployed, or 22.2 per cent; and the lowest in May and June 1924, when the lowest figure was 1,009,444, or 9.3 per cent. During the whole course of these years the unemployment figures for Great Britain were never below a million, and only for the period March to August 1924 was the percent-

age of unemployment below 10 per cent. To summarise: unemployment was worst in May and June 1921; employment was best from March to June 1924. The main tendencies of 1925 followed those of 1923, the improvement in the general position which took place in 1924 not being maintained.

UNEMPLOYMENT, 1926-27

As before the unemployment figures for a representative month can be analysed in detail it is necessary to take the combined figures for Great Britain and Northern Ireland, a useful purpose might be served by setting down, month by month, the total unemployment figures and the percentages for the complete year 1926 and for the months of 1927 available. All the figures given so far have been for Great Britain only. The detailed statistics issued monthly by the Ministry of Labour in its *Gazette* gives the combined figures for Great Britain and Northern Ireland, and no official means are available to separate those for Great Britain alone in the detailed classification:

	1926	Per cent.
January	1,317,535	11·1
February	1,247,823	10·5
March	1,171,136	9·8
April	1,093,829	9·2
*May	1,719,369	14·5
*June	1,751,133	14·7
*July	1,737,260	14·6
*August	1,684,507	14·2
*September	1,648,322	13·9
*October	1,635,886	13·6
*November	1,630,142	13·5
*December	1,431,840	11·9

* Exclusive of persons in coal-mining industry, who ceased work on account of dispute, or remained disqualified for unemployment benefit on account of dispute.

	1927	Per cent.
January	1,451,103	12·1
February	1,315,444	10·9
March	1,187,782	9·9
April	1,133,090	9·4
May	1,058,791	8·8
June	1,069,386	8·9
July	1,113,963	9·3

It will be seen that, during the first four months of 1926, a considerable improvement in employment took place, the total of unemployment being reduced by the end of April by nearly a quarter of a million. On account of the dispute in the coal-mining industry, in May, the total number of unemployed increased by over 600,000, to go still higher in June, and to be considerably above the million and a half mark until December. The first six months of 1927 showed a considerable improvement, the total falling by 400,000 between January and May.

AN ANALYSIS OF REPRESENTATIVE UNEMPLOYMENT FIGURES

In attempting any analysis of recent unemployment figures in detail, the totals given in the September issue of the *Ministry of Labour Gazette* for 1925 provide a representative basis. The estimated number of persons insured under the Unemployment Insurance Act in Great Britain and Northern Ireland in July 1924 (the official datum line) was 11,514,000. The number of unemployment books remaining at the Employment Exchange on August 24, 1925, was 1,440,749, which meant a percentage of unemployment of 12·2. The industries providing this unemployment figure are divided in the *Ministry of Labour Gazette* into one hundred categories or sub-categories, and of this classification one category only (that of coal-mining) had a total of unemployment reaching six figures. This industry had 279,781 workers unemployed, or 22·2 per cent of the total industry. Including coal-mining, there were sixteen industries, including steel, engineering, shipbuilding, cotton and wool, each with 20,000 or more unemployed, providing a total of 1,013,288 out of 1,440,749 unemployed, or 70·3 per cent, or nearly three-quarters of the total unemployment, one industry alone—coal-mining—providing 19·4 per cent, or nearly one-fifth of total unemployment. The remaining one-quarter of unemployment is variously distributed among eighty-four industries.

While some of the big industries had heavy totals of unemployment and also heavy percentages, other of the big

industries had a comparatively low percentage of unemployment. There were but three industries having a percentage of unemployment exceeding 30 per cent. One was ship-building, which for several years has been the most consistently depressed industry of the country, and had a total of 85,553 unemployed out of 255,090 registered in the industry, or 33·5 of unemployment. The second was linen, with a total unemployment figure of 26,524, or 31·9 per cent; and the third was iron-ore quarrying, with a total of 95,637, or 33 per cent of unemployment. But two industries have a percentage of below 30 per cent and above 25 per cent, and they were steel and canal, river-dock and harbour services. Steel had been consistently depressed since 1922, and had a total unemployment figure of 53,774, or 25·9 per cent, while canals, etc., services had a total unemployment figure of 57,805, or 29·6 per cent. There were seven industries having an unemployment percentage below 25 per cent, but above 20 per cent, the most important of which was coal-mining; and there were ten industries, the most important of which was the woollen industry, having an unemployment figure between 15 and 20 per cent. There were twenty-nine industries, including engineering, with a total of 79,181, or 12·6 per cent; and cotton, with a total of 76,382, or 13·6 per cent, having an unemployment figure between 10 and 15 per cent.

To summarise, the following table shows the percentage of unemployment in each of the percentage groups which have been taken :

Group.	No. of Industries.	Total Unemployment.	Percentage of Total Unemployment.
1. Above 30 per cent	3	117,714	8·1
2. 25-30 per cent	2	111,519	7·8
3. 20-25 „	7	359,106	24·9
4. 15-20 „	10	111,306	7·8
5. 10-15 „	29	357,373	24·6
6. Below 10 per cent	49	384,671	26·7
	100	1,440,628	100

The conclusion to be drawn from this analysis is that, if something could be done to improve the position of a small

number of the staple industries of the country, the unemployment problem, in its post-war connotation, would be practically solved. Nor have all these industries a high percentage of unemployment. They are largely the main export industries, and successive Governments have time after time endeavoured to find some piecemeal solution to improve several of them, independently of any attempt to improve the general trade position of the country. The following seven industries—coal-mining, steel, engineering, shipbuilding, cotton, woollen and building—alone accounted for 677,723, or 47 per cent of total unemployment. If to these main industries certain dependent industries are added—those industries which are dependent for their prosperity upon the general purchasing power of the community—it will be found that a large proportion of the remaining unemployment will diminish, if not disappear. Such industries are those relating to food, clothing, transport and communications, and the distributing trades ; while all these staple industries have several subsidiary and auxiliary industries, which would be improved if the necessary stimulus could be given to the main industries.

THE CAUSES OF UNEMPLOYMENT

Various attempts have been made to probe the causes of unemployment. Detailed consideration of the figures over a number of years suggest a number of causes which have been particularly forceful in their application during the post-war period. These figures indicate more than a passing or temporary influence. To meet the demands of the war certain industries were expanded greatly beyond their normal capacity. At the same time as Great Britain was expanding those industries beyond the normal capacities of her home consumption and the average demands of her export trade, other countries were doing the same. Yet certain of the industries most closely associated with the war—chemicals and explosives manufactures, for example—have not shown an abnormal figure of unemployment. On the other hand, if the heavy metal industries, engineering, shipping generally, are considered, it will be found that those are the

industries which were most greatly expanded beyond normal capacity during the war, and which to-day are amongst the most seriously afflicted of our staple industries, representing 18·3 of total unemployment.

In the same category must be considered industries seriously affected by lost foreign markets. It is true that the depression in those industries mentioned above cannot be entirely due to over-expansion to meet special needs, but, in part, to a diminished demand from Britain's old customers, on account of greater expansion, cheaper cost of production, and general decline of purchasing power in those countries. The causes why the coal-mining and textile industries are seriously affected are partly due to the foreign markets lost during the war and not regained, and to special circumstances, such as greater development of the coal-fields in France and Russia ; the diminished demand caused by the adoption of hydro-electric schemes ; and special and temporary circumstances, such as reparations coal. Coal-mining and textiles alone represent 33·6 per cent of total unemployment.

The third class which must be considered is that which comprises those industries which are mainly dependent upon the general prosperity of the country. When these industries are taken in association with the other two classes which have been considered above, it will be found that practically the whole of the unemployment of the country may be attributed to one of three main causes. The loss of export trade and the burden of the total volume of unemployment, react day by day and year by year upon each other. The industries relating to food, clothing, construction, transport and distribution represent 39·6 per cent of total unemployment ; to this add 18·3 per cent in industries expanded beyond normal capacity during the war, and 33·6 per cent in industries seriously affected by lost foreign markets, and 91·5 per cent of total unemployment is accounted for. The industries which have not been considered in this threefold classification are mainly industries subsidiary to those main ones which have been considered.

THE STATIC CONDITION OF UNEMPLOYMENT

The unemployment figures which have been considered above are derived from the official returns of the Ministry of Labour. Confirming these in their general indication and conclusion, if not always agreeing in detail, are the percentages of Trade Union unemployment. It may be that, during the last few years, there has been "a downward phase of the mysterious economic phenomena known as the international business cycle". But, in any case, after the experience of five years, whatever slight variation there may be during the next few years in the trade cycle, there is no sure ground for assuming that any continued or considerable reduction can be made in the unemployment figure, unless something is done to grapple with the heart of the problem. The figure may remain static between a million and a million and a quarter; it may again mount up to the million and a half level, or beyond; but there is no sure ground for belief that it will remain constant for an immediate period below a million. The static nature of the unemployment problem in its present phase is not the least disquieting feature of the present situation. The country cannot go on indefinitely supporting such a large proportion of the population in idleness.

THE TOTAL VOLUME OF UNEMPLOYMENT

The totals which have been given do not represent the total volume of unemployment in Great Britain and Northern Ireland. These figures represent only those unemployed of the 11,514,000 in industries insured under the Unemployment Insurance Act, and exclude those employed in agriculture, including horticulture and forestry, and in domestic service. These two industries are included among the total of 15,070,000 of those insured under the Health Insurance Acts. There is therefore a total of over three and a half million insured workers among whom the percentage of unemployment is unknown. The total number of those unemployed in these two industries, though probably small in proportion to those in the other insured industries, means a considerable

addition to the total volume of unemployment. Moreover, the insured industries comprise but 47 per cent of the total population above the age of 16. Amongst various uninsured classes there is a serious unemployment problem, amongst clerks, school teachers, the professions and men and women who are university trained. To the Ministry of Labour figure must, therefore, be added some hundreds of thousands of unemployed. It would, therefore, not be far wide of the mark to state that at least one-tenth of the whole population of Great Britain is dependent upon the unemployment benefit, Poor Law relief, or charity, for sustenance.

THE ANNUAL INCREASE IN POPULATION

A factor in the unemployment situation to which too scant attention has been given in all attempts to investigate the problem, and to provide some palliative or remedy, is the annual increase in population. The annual increase in population in Great Britain and Northern Ireland is about 300,000. The annual increase in the number thrown upon the labour market in those industries alone which are insured is about 120,000. In a time of depression—indeed, in any time but one of expansion, and continuous expansion,—industry is unable to absorb the increase. This complicates the situation greatly when there is a static mass of unemployment between the old constants, a million and a million and a quarter. It would seem that, from the failure to absorb the annual increase in the industrial population, the sum total of unemployment might tend to increase the old constants, unless something could be done to solve the basic problem.

Still, it must be borne in mind that, comparing the population in 1914 with that to-day, the whole situation is not so serious as it might appear at first sight. In the census of 1911 the population of Great Britain was 40,831,376; by the census of 1921, despite the ravages of war, it had increased to 42,767,530. Since the beginning of the war, therefore, the population has increased by over two millions. Moreover, there are more than a million more people employed in the country now than there were before the

war. This fact partly explains the unemployment figures as they exist to-day, though it does nothing to justify the country in accepting complacently the figures which have prevailed for so many years.

The main directions in which successive Governments have endeavoured to deal with the problem of unemployment since the war may be stated briefly as, guarantees under the Trade Facilities Acts, export credits, and grants by the Unemployment Grants Committee ; in other words, the provision of credit facilities for development at home and the promotion of export trade. For three consecutive years the total cost to the State of all schemes for the relief of unemployment worked out at an average annual cost to the Exchequer of but four and a half million pounds. For this small expenditure the country got some productive result. But during the same three years the country spent an average of one hundred million pounds a year on the unemployment problem for which it got no productive result!

EMIGRATION

Allied to the question of the annual increase of population is the problem of emigration. It is a startling fact that, since the war, the emigration figures have diminished considerably. In spite of the long period of continuous depression which has occurred, far fewer men and women are seeking to conquer new countries and new continents overseas. The development of a sound policy of emigration would make some contribution towards alleviating the unemployment problem, at least in the direction of absorbing some proportion of the annual increase in the industrial population. The view of the emigration officials of the Dominions, as well as of Employment Exchange officials, is that the unemployment benefit is discouraging emigration.

Boards of Guardians in England and Wales have conferred upon them by the Act of 1834 power to assist emigration, and a similar permission was given Parish Councils in Scotland by the Poor Law Emergency Provisions (Scotland) Act, 1924, to "make such grants as they may think fit towards assisting in defraying the expenses

of emigration of any destitute able-bodied person out of employment who has expressed a desire to emigrate". The problem of emigration in its present purview is not one which can conveniently be dealt with by Boards of Guardians or Parish Councils. The problem is essentially one for the central Government. A suggestion which might be worth considering is that the recipient of the unemployment benefit should be entitled to commute the benefit to which he was entitled, and withdraw his unexpended contributions to the Fund, should he desire to emigrate. None of the parties contributing to the Unemployment Fund should feel aggrieved, because the Fund liquidates its obligations by commuting the benefit in certain cases by a capital payment, which would give the recipient the opportunity to work which neither the Fund nor the country offers.

THE PROBLEM BEFORE THE COUNTRY

It must be clear to everyone that it is only by increasing the volume of trade and stimulating production that greater employment will result in any particular industry. It is equally true that, if sound production can be stimulated in one of the main and basic industries of the country, a corresponding stimulation will be provided in a considerable number of other main industries, as well as in dependent, subsidiary and ancillary industries. From improvements in these industries will result a greater volume of business throughout the home market, in the food-producing and distributive industries, in the clothing industries, and in what are sometimes termed luxury trades.

The problem before the country, then, is—How can the volume of trade be increased and production stimulated? The chief obstacle in the way of trade expansion is cost of production. During the last few years several factors have conspired together to make the cost of production in Britain prohibitive to prospective purchasers in our export markets. Many of these factors have been entirely outside the realm of British control; among them have been the general poverty of the world, the operation of depreciation and widely fluctuating exchanges, the growth of new and

vigorous industries in new and vigorous countries. Others of these factors have been but partially and tentatively within the orbit of British influence; for example, the confusion and chaos in China, the world over-production of coal and other commodities. Other factors have either been inflicted upon British industry, or their operation has been intensified by Government action or inaction; for example, currency policy and the burden of local and national taxation.

If, however, the cost of production can be reduced, if the seller's price can be brought closer to the purchaser's capacity, a greater amount of business will result. The question therefore arises, Can a practical scheme be devised by which the gap can be bridged? Changes in currency policy are difficult to undertake, and when undertaken are slow in effecting a noticeable result. Reductions in rates and taxes, a different method of assessment, would assist. But the problem is urgent, and the remedy should be swift in its application, and must show prompt results. Aids to production can be bestowed in a thousand and one small ways within time, and the cumulative result would be most valuable. But some fundamental change which, even if only temporary in its application, would tide the country over its immediate emergency and permit the longer-distanced factors to operate and fructify, would be the most advantageous of all.

The immediate problem before the country, then, is whether such a change is possible; if such a change is possible, whether its immediate application should not be insisted upon; and whether that application should not be undertaken irrespective of potential risks and possible inequalities.

THE OBJECT OF THE SCHEME

Would it not be much better, instead of utilising the vast sums spent year by year in unemployment benefit, supplemented by Poor Law relief, to obtain work for the workless rather than to subsidise idleness? Since the Armistice a sum approaching five hundred million pounds

has been expended unproductively on account of unemployment. Is it possible to find work for the workless, not in expensive relief work, but in his own trade, in which his economic efficiency would be highest? Is it possible to stop the continuous deterioration which enforced idleness spells in working capacity in many of our most highly skilled men? Is it possible to give employment to that large army of youths which, since the war, has been trained to no regular work, and which threatens to become, if it is not becoming, a dangerous and difficult problem to itself and the country? Can the country afford to sit still and do nothing more than has been done these last six years?

The object of the scheme for the relief of unemployment which is detailed below is to provide a means of lessening the cost of production. Efforts to lessen the cost of production by longer hours, lower rates of real wages, or other restrictions upon labour, cannot be seriously debated. But by applying the whole or part of that vast sum, approaching a hundred million a year, which is now being spent in unproductive purposes, towards lowering the cost of production, a widened market will be provided for British goods, the discontented workless man will become a contented workman, and that spark of hope and confidence will be given to British industry which will end the era of depression and inaugurate the era of expansion and prosperity. The narrow margin between the buyers' and sellers' prices will be obliterated. Instead of struggling to retain a foothold in the world's markets, Britain may regain her lost dominion. This is the object with which the scheme is propounded. If it will fulfil this object, a great purpose will have been achieved. The criterion which should be applied to the scheme is, whether or not it will achieve this object. This cardinal consideration should be borne in mind throughout, and if the country is satisfied on this point, nothing should be allowed to prevent the adoption of the scheme

OUTLINE OF THE SCHEME

The object of the scheme is to obtain work for those who are unemployed and in receipt of unemployment

benefit, and for the purpose of the scheme no distinction is made between covenanted and uncovenanted benefit. Under the scheme, the employer who gave the unemployed worker employment would be entitled to his proportion of both.

1. The unemployed worker would be entitled voluntarily to surrender his unemployment benefit, in return for definite work, at full Trade Union district rate of wages, for a definite period. When the scheme enters into operation, every Labour Exchange would be instructed to open a register of those unemployed, and prepared to undertake work on this basis.

2. The recipient of the advantage of obtaining a wage reduction or subsidy would be the employer, who could utilise this labour. It is obvious that, to achieve a diminution in the number of unemployed, and to prevent a mere substitution of those already engaged in industry by those out of work, measures must be taken by which only employees in excess of the establishment of any given firm at a given time can be eligible to be engaged under the proposed subsidy.

3. Employers prepared to engage additional workers under the scheme would apply to a committee, representing the employers, the Trade Unions and the State, in proportion to their contributions to the Unemployment Fund. The employers' panel would adjust matters affecting employers alone ; the Trade Unions panel would adjust matters relating to those about to be employed, and the whole committee matters affecting the various panels and general points at issue. The committee would decide whether the granting of the application would or would not increase the total volume of trade and, therefore, of employment.

4. Employers, after having received the sanction of the committee, would notify the Labour Exchanges of the number of new workers they would take into employment on full time, at full Trade Union rates, for a definite period (say, for example, six months), in excess of the average number fully employed by them during the twelve months preceding the "appointed day".

5. The "appointed day" would be a date defined in the legislation which would have to be passed to make this scheme effective. The date would presumably have to be the day upon which the adoption of the scheme by the Government was first made public.

6. In respect of 75 per cent of the workers actually engaged as the result of the above notification, the employer would be entitled to receive the Unemployment Benefit due to those workers from the Labour Exchange through which he engaged the men.

7. The cards of all workers who had been continuously unemployed for three out of the six months preceding the "appointed

day", and who had notified the Exchange of their willingness to come under the scheme, would be stamped by the Labour Exchange, in order to ensure that these men would be the first to be employed under the new scheme.

8. Any firm set up after the "appointed day" would receive the 75 per cent of the Unemployment Benefit only in respect of half the total number of men employed. Moreover, the firm would have to prove commitments into which it had entered before the "appointed day", and would have to start operation within three months of the scheme coming into effect.

9. So that the scheme might end automatically when the greatest need for it had been met, the number of men and women for whom the employer would receive the Unemployment Benefit would have to be reduced at the end of a six months' period after the "appointed day", and subsequently, at the end of every three months' period, by 2 per cent more than the percentage reduction in unemployment in their industry, as ascertained by the Ministry of Labour, since the date when the scheme began to operate. For the purpose of this calculation the total number employed under the scheme would be regarded as employed.

10. The scheme would end automatically when the reduction to normality in the unemployment figures is reached, and this figure should be stated in the legislation necessary to put the scheme into force.

11. The scheme would apply to men, women and youths in all insured industries in which the unemployment figures were above normality.

12. Employers, for the purpose of the scheme, would include all industrial companies, local authorities and public utility undertakings; that is to say, every class of employers of labour.

THE FUNCTIONS OF THE COMMITTEES

The proposals have already received such voluminous exposition in various quarters that it is unnecessary to reiterate the machinery and advantages of the scheme in detail. There are, however, a number of special points which require some further exposition, and a number of objections which have been raised which require some further answer. For example, the powers and functions of the committee referred to in the third paragraph require some further explanation. The committees could either be trade committees dealing with different industries in their districts, with, if necessary, co-ordinating national com-

mittees, or local committees representing various industries. The nature of the committees would have to depend upon the nature of the industry concerned. They would be rather on the lines of the local unemployment committees which exist to-day, but not the same, as a strengthening in personnel would be desirable.

The procedure would be as follows: An employer, in accordance with the conditions outlined above, would apply to the committee to employ under the scheme. In the first instance, the application would go before the employers' panel and, subsequently, before the full committee. The decision would be determined by a full consideration of all the facts of the particular case. The first point which would have to be considered would be whether the additional number of workers applied for would be employed in any case, even if the application were not granted. If it were decided that, on account of a specific contract, already obtained, or on account of a revival of trade, or an expanding market, all the additional number of workers would be employed in any case, the application would be refused in its entirety. If on the other hand—as would be far more likely under the general conditions prevailing to-day—it were found, after full investigation, that a proportion of the additional workers applied for would be provided with work in any case, the application would forthwith be reduced automatically by that proportion. There would therefore be no possibility of any worker being employed under the scheme who would otherwise have obtained employment.

The committee, having satisfied itself of the number who would not otherwise be employed, would proceed to consider whether the grant of the application would lead to any inequality as between firm and firm. If all the effect of the grant of the application would be merely to transfer work from firm A to firm B, whether A was efficient or inefficient, or whether B was inefficient or efficient, it would be refused. The employer making the application would have to convince the committee that the grant of his application would provide new business which would not otherwise come into the country at all, or would not be created. This would be the essential and irrevocable consideration.

THE VOLUME OF TRADE

It has been objected against the scheme that its effect would be merely to transfer business from one firm to another, from the efficient to the less efficient firm, and from one district to another, without increasing the total volume of trade and, therefore, of employment. If this criticism was justified the scheme would obviously have no beneficial result. But this kind of criticism is based upon a fallacy of the static view of industry. It is assumed that there is only a certain volume of trade obtainable in the world, and that, therefore, any scheme the result of which would be to reduce the cost of production would not produce new business, but merely occasion a redistribution of business already being transacted.

This view is entirely contradicted, both by economic law and by business experience. The country is told almost every day of orders going abroad to foreign competitors, with a relatively small margin of difference between the prices of British tenders and foreign tenders. How can it be argued that if the price of the British tender could be reduced, and the order obtained thereby, that the total volume of unemployment would not be reduced? How could it hurt firm A, fortunately already fully employed and not in a position to take any more orders or to employ any further workmen, if firm B, not in so fortunate a position, receives a contract for a ship, a bridge, for pipe lines, rails or any other commodities in competition with other countries. If firm B were successful, it would increase its own demand for labour and relieve the unemployment situation.

Further, what is an efficient firm? Where is the margin between efficiency and inefficiency? In the world of industry to-day some of the works whose plant is most up-to-date, whose methods are the newest, and whose direction is the most competent, are suffering the worst from unemployment. Would such a firm be considered inefficient? Its smaller competitors frequently are able to operate because their overhead charges are less, because the rates upon their plant are lower, because sufficient work can be obtained to keep

active a small unit, whereas, on the present basis of prices, there is insufficient work available to operate a large unit.

INDUSTRY A DYNAMIC ORGANISATION

The main fallacy involved is the fallacy of looking upon industry as a static instead of a dynamic organisation. It is always assumed that if A and B are competing, and B gets an order, A loses. That would be quite true if the volume of business in the world was definite and fixed, but the fact is there is not X business in the world ; there is X plus Y. Y is the unknown factor. It is to obtain this unknown Y that the scheme is framed. The volume of trade obtainable is not limited ; it is only limited at a given limit of prices. Reduce your prices and the demand increases ; increase your prices and the demand diminishes.

And in addition to the export work which Britain is not getting at present, anticipatory work must also be borne in mind. Nothing is more sensitive than the business world. A slight depression ripples through causing greater and more widespread depression. Light the spark of hope and optimism will be progressive. Manufacturers would consider extensions and repairs ; machinery which has been idle will be overhauled in anticipation of future use ; new plants will be installed to meet the future demand.

It is surely very short-sighted to regard the trade of a country not as a unity and not as a national interest, but merely in terms of the individual firm. The problem surely is how to stimulate British trade and to increase employment, to lift the dead-weight of depression which is lying like a miasmatic cloud over so many of our industrial centres. The nation is vitally interested in the whole of the industrial problem, and the function of the Government is to regard the nation as superior to and more important than the interests of private individuals. There is scarcely one scheme of social amelioration in existence which does not press unequally upon different industries and different classes. But this does not prevent adoption in the national interests. There are some industries in which unemployment is almost non-existent ; yet they have to bear the burden of the general

load. In National Health Insurance there are numbers of people whose health is never affected, and yet they have to contribute. It is no answer to the scheme to say that inequalities might occur, and therefore one must sit still and do nothing.

AUTOMATIC TERMINATION OF SCHEME

Another point which needs amplification is the arrangements for the automatic termination of the scheme. In the scheme the position is reviewed at the end of the first six months' and at the end of each subsequent three months' period. Consider an industry in which, on the appointed day, there are, say 55,000 unemployed. During the first six months 5000 additional workers are taken into employment under the scheme. The percentage reduction in unemployment would be 9·1 per cent or, with the automatic 2 per cent addition provided, 11·1 per cent. Under the scheme the employers would have been receiving the unemployment benefit in respect of 75 per cent of the additional workers; after the end of the six months' period they would receive only 63·9 per cent. If during the further three months' periods additional workers were employed under the scheme, the whole plan would work out as follows :

Date.	No. of Unemployed.	No. Employed under Scheme.	Per cent Reduction.	Add 2 per cent.	Per cent for which Benefit is Drawn.
Appointed day . . .	55,000	..	..	..	75
Six months' period . .	50,000	5,000	9·1	11·1	63·9
First 3 months' period	48,000	7,000	12·7	14·7	60·2
Second 3 „	45,000	10,000	18·2	20·2	54·8
Third 3 „	40,000	15,000	27·3	29·3	45·7
Fourth 3 „	30,000	25,000	45·5	47·5	29·3

But there is no reason why men should not be employed during the same time other than under the scheme. Assume that during the first six months a further 1000 workers are employed independently of the scheme. The reduction

in the percentage on which benefit was drawn might then work out as follows :

Date.	No. of Unemployed.	No. Employed under Scheme.	No. Employed Independently.	Total No. Employed.	Per cent Reduction.	Add 2 per cent.	Per cent for which Benefit is Drawn.
Appointed day	55,000	..	..	..	..	..	75
Six months' period	49,000	5,000	1,000	6,000	10·9	12·9	62·1
First 3 months' period	45,000	7,000	3,000	10,000	18·2	20·2	54·8
Second 3 "	40,000	10,000	5,000	15,000	27·3	29·3	45·7
Third 3 "	30,000	15,000	10,000	25,000	45·5	47·5	29·3
Fourth 3 "	20,000	17,000	13,000	30,000	54·5	56·5	18·5

Further, on the question of termination, it would probably be advisable to endeavour to devise some formula to bring the reduction in the total volume of unemployment into relation with the reduction in particular industries. For a reduction in particular industries, during the application of the scheme, would lead to spontaneous and simultaneous reduction in other ancillary and subsidiary industries, as well as in such trades as the distributive trades, to which the scheme could not conveniently be applied. Again, provision could be made in the legislation necessary to apply the scheme to make it an obligation upon the Minister of Labour and the President of the Board of Trade to alter by Order in Council the regulations regarding the percentage reduction when the state of industry permitted, and therefore to terminate the application of the scheme to any industry, or to industry in general, after due notice of six months, for example, had been given.

THE PROFITS PROBLEM

Another problem which would arise upon the application of the scheme would be that of profits. Should the total profit, if any is made, by any firm receiving the unemployment benefit in respect of any of its workers be retained by that firm ? It must always be remembered that in entering into any contracts it is as possible that a loss will be made as it is possible that a profit will be made. Some inducement is always needed to stimulate business. It would be a very one-sided bargain if all the profits were taken by the community and all the losses had to be borne by the individual. It would also be a one-sided bargain if, when assistance towards lowering cost of production is provided

out of the unemployment fund, all the profits made by the firm were retained by it.

There are many ways in which the profits problem could be dealt with, but a way in which there would be no long, costly and irritating investigation into all the accounts of all the industrial companies coming under the scheme would commend itself most to all concerned. A suggestion which would seem to fulfil these conditions is that a scheme should be devised by which, when the employer receives 75 per cent of the unemployment benefit of the additional workers employed, the total amount received from the unemployment fund over a six months' or a twelve months' period should be proportioned to the entire wage bill of the works employing the additional workers, and the profits of the works made over that period proportioned in the same way between the works and the unemployment fund. Though this is not the only way in which the problem could be attacked, the method suggested has the advantages of simplicity and directness.

OTHER PROBLEMS

The other important problems connected with the scheme, for example, the ample safeguards against abuse which are inherent in the machinery of the scheme, the problem of the return to normality, the effect upon the Insurance Acts, the outstanding advantages of the scheme by financial saving in rates and taxes, the large volume of support which has been received for it from a multitude of different directions—all these matters have already been fully discussed and expounded in a variety of places on a variety of occasions. The proposal that if fear frightens from a wholesale forward step at once there should be initially a limited application on an experimental basis to contract industries, local authorities, public utility and statutory companies, has been explained at length. The scheme proposed has been compared with the bogey, but really the system, known as Speenhamland, and the differences have been contrasted. The attitude of the Labour Party, the Trade Unions and the Government, which is already committed since 1923 to the principle of subsidised wages, have been commented

upon; and many foreign Governments have shown their practical interest in the proposals

A SWISS EXPERIMENT

There is one foreign country which has proved the practicability of the scheme by a concrete example. In 1921 the Swiss watchmaking industry was severely depressed and its export market was seriously disorganised. The total exports for the first half of 1921 had decreased by 45·5 per cent below those of the corresponding period of 1920. The causes for the depression and loss of export trade were much the same as those which afflict British industry to-day. The *Chambre Suisse de l'Horlogerie* considered the whole situation, and pointed out that the cost of production was too high to compete successfully in foreign countries.

The Federal Council decided to give a subsidy to the industry, and a first grant of five million francs and a further grant of six million francs was made. Clearly defined conditions were laid down under which the subsidy was payable to the manufacturers. It was an essential condition that there should be a further employment of personnel, which would otherwise have been unemployed, and that the manufacturer would otherwise be working at a loss. The amount of the subsidy was not to exceed the sum which would otherwise have been paid under the unemployment benefit. Where the result justified it, the possibility of repayment was to be considered. The subsidy was only to be given in cases where goods were exported to countries with depreciated currencies, and in no case was the amount of the subsidy to exceed 30 per cent of the cost of production. The manufacturers undertook the obligation of keeping their regular employees fully or partially employed from the date of the grant of the subsidy. In order to provide against abuses penalties were provided.

The subvention was so successful that the scheme ceased to operate in February 1923. Of the total of 11 million francs allocated the total sum paid out amounted to less than 9½ million francs, while the cost of administration

had been 154,000 francs. The results of the scheme were described in the Swiss Government organ, *Wirtschaftsberichte des Schweizerischen Handelsamtsblattes* of June 13, 1925, as follows :

“ The decline in unemployment as well as the increase in exports, shows that the State assistance to the watch and clock industry fulfilled its object. In December 1921 the unemployed in this industry numbered 27,787; in March 1922, 22,928; in June, 13,861; in September, 11,569; in December, 9015; in February, 1923, when the contribution ceased, 7825; and in March, 7177—a reduction in the number of the unemployed of 20,610, which is equivalent in round numbers to 75 per cent. Within the same period the reduction in the number of unemployed in all industries altogether was only 78,249, or 55 per cent.

“ From February to December 1923—that is to say, in a period in which the effect of the contribution was still felt—the number of the unemployed in the watch and clock industry fell by 79.5 per cent, while the fall in all industries was only 46.7 per cent. From September to December 1922 there was an increase in the number of unemployed in all industries of 1028, while the number in the watch and clock industry fell by 2554.

“ So far as exports are concerned, there was an important increase in the number of watches exported from 1921 to 1923. In 1921 they numbered 8,400,000; in 1922, 10,200,000; and in 1923, 14,400,000—which amounts to an increase of 41 per cent from 1921 to 1923. If we take into account finished watches and clocks only, for which the contributions were mainly granted, the increased exports within the same period amounted to 64 per cent (exports in 1921, 5,900,000; 1922, 7,200,000; and in 1923, 9,700,000).”

Further information on the results of the subsidy is available from other sources. For instance, the total value of the exports borne by the subsidy amounts, in round figures, at the end of February 1923, to 83 million francs, so that the amount of the subsidy worked out at a little more than 10 per cent of the total value of exports. The value of the system was adequately recognised at the closing meeting of the committee of supervision of the subsidy, when most of the members of the watchmaking industry dwelt upon the great assistance rendered by the State in enabling the industry to maintain its position in foreign markets through a dangerous crisis.

AN APPEAL FOR TRIAL

Difficulties which have been raised in anticipation of the scheme would probably never occur in application, and, perhaps, many difficulties which no one now sees would appear. That is always the case in social legislation. You can only hammer these things out on the anvil of practice. A successful experiment has been conducted in Switzerland. We are not entirely deficient in adaptability or practical genius in this country. Our whole industrial system is arraigned by its failure to deal with the problem of unemployment. If any scheme will help to solve it, it is certainly to the interests of those who generally believe that the maintenance of the established order of society is essential to the well-being of the country to use every endeavour to see that it is seriously considered. In 1834 there was no great Socialist Party threatening to destroy the fabric of society. We have to face fundamental facts. There may be those who rejoice, hoping that the persistence of the unemployment evil will provide the acceptance of a new and dangerous economic system in which the whole of industry and life would be jeopardised. Our reigning economic system cannot justify itself unless it solves this, one of the greatest of our industrial and social problems.

I believe that this scheme will achieve a great part of its object. When you have deterioration of human material and the attendant misery; when you have an apparent inability to pull yourselves up out of the slough of despond on the one hand, and on the other hand when you have a scheme which affords a glimmer of hope of improved conditions, why should you not, at any rate, give it a trial? Such a scheme would help to justify our present order of society, which to-day is being incessantly attacked by those who claim it is a failure, and that we have not the capacity, nor the ability, nor the desire to alleviate the present conditions. If you succeeded, you would have done a fundamental thing—not merely in an economic sense, but in a much wider sense—to re-establish the confidence of the toiling millions of this country, not in those who want to lead them on the road to revolution, but in those who

believe our existing social structure is capable of solving the difficulties and miseries of the situation.

Is it a matter of unimportance to the community whether its industrial population deteriorates; whether its trade leaves its shores; whether despair, despondency and unrest enters the heart of its workers; whether a generation of worthless, workless citizens grows up? Is suffering humanity of no account? Is there no evil to remedy? The scheme is, after all, an honest endeavour to help to solve a problem which is sapping the moral fibre, the physical stamina and the industrial efficiency of the nation.

CO-PARTNERSHIP AND PROFIT-SHARING

THERE is a growing realisation of the vital necessity to British industries in their present plight for the application of a new psychology to industrial affairs. Take the most important and imposing of current examples. The present coal position shows conclusively the immediate need. More Commissions have sat upon the coal industry than upon any other industry I know of. Cheaper production, enabling coal to be sold at a lower price, is essential for the maintenance of industry in every direction. One of the most forceful ways in which this cheap production could be induced would be, by the people in the industry having a spirit, not of perpetual hostility, but of co-operation. No legislation, no Commissions, no reports, can make a man cut more coal at the coal-face than he is prepared to cut. It depends fundamentally upon getting a new spirit into that industry very different from that which has prevailed during the last few years. It is becoming generally recognised that the industry could be made once more what it ought to be—a paying proposition, if only that new spirit could prevail.

A NEW PSYCHOLOGY

It is a great encouragement to any one who is interested in peace in industry, and in the adoption of a new industrial policy, to find that, throughout the country, both on the side of those concerned with the organisation of industry, and on the side of those concerned with labour, the importance of carrying into practice the new principles of a new psychology in industrial affairs is becoming increasingly realised. I call it a new psychology because it follows from a realisation

of the change which is bound to come in the relationship of those engaged in industry in every capacity. Those interested in industrial reform are still burdened with the phraseology of a defunct epoch. We still read about employers and employed, about masters and men ; whereas we all know that they are all employed. All these phrases have no longer any meaning. The true phrase to-day is "co-workers in industry". They are co-workers in different capacities, and at different salaries, but are all dependent upon the prosperity of the industry for their remuneration or reward, whatever it may be.

We must have a new psychology and a new phraseology, and then we can look forward to an era of economic success in industry as great as this country has ever experienced. There are some items which no accountant can put into a balance-sheet, but which are yet of enormous importance to industrial prosperity. For instance, no one can tell in pounds, shillings and pence the value of willing service, and of the desire of every one to pull his weight. We all know that, in business, if there is not a pulling together, either among the people at the top, or in any other part of the concern, the most prosperous undertaking can be ruined. Therefore, it is to the goodwill of those engaged that I attach the greatest importance.

AVENUES OF APPROACH

Hopeful as may be the signs of the creation of a new spirit in industrial affairs, and fertile as may be the ground for the adoption of a new psychology, the general atmosphere can only express itself effectively in practical methods of reform in the industrial organism. The present century has already seen a number of fruitful experiments and examples of change. The nation has shown itself, owing to the havoc of industrial warfare, more interested than ever before in the attainment of industrial peace. Our great Dominions have given us a lead in the application of arbitration to industrial disputes. Whitley Councils have been established, and through their means many difficulties have been avoided. More and more firms have come to recognise the advantages

of profit-sharing. The worker has been given additional security, through various insurance schemes. While not suggesting for one moment that there is any single avenue towards the establishment of an industrial Elysium, I am firmly convinced that co-operation in industry, particularly through co-partnership and profit-sharing, is one of the most useful avenues by which the ultimate goal can be reached.

The general subject for the discussion of which this Conference has been called—that of Co-Partnership in Industry—embodies a great hope for the restoration of confidence and health. Since the war, the whole of the industrial community has been suffering from anæmia—a lack of robustness, due to the prevailing international conditions, the general poverty of most countries in the world, to insecurity and financial instability. The mere establishment of confidence alone would do a great deal towards the infusion of new red corpuscles into the body industrial. During the last few years, wherever one has looked in the economic field, hesitancy, doubt and distress have been observed, at a time when nothing but concerted effort on a large scale would serve to inspire those first faint signs of returning prosperity, which Britain, as all other countries, so urgently needs.

THE THREE CO-PARTNERS

At the present time, therefore, it is a great relief to address a few remarks to representatives of an Association of those concerned with, or interested in, industry; who are not merely vaguely optimistic in their outlook for the future, but are willing and eager to consider experiments which have been made tentatively in the past, and to see whether the results of those experiments cannot be usefully applied to the reorganisation of industry, which is so important at the present time. The relief is all the greater because of the fact that the activities of the Labour Co-Partnership Association, as a body, and of its members—whether they be representatives of great industrial firms, great Trade Unions, or attending as individuals—are directed to examine, and after examining, to approve of an idea, even if it is not yet recognised as a principle, which must be considered central

and basic. The idea to which I refer is the recognition of the fact that industry is not to be identified with any one of the three co-partners in the industrial trinity ; that it is not to be identified specially or solely with capital, management or labour, or with any other single factor in production ; but that it depends essentially upon a frankly accepted co-partnership between them all, as equally important factors in all great industries.

VARIETY OF APPLICATION

It would be as well to recognise at once that one of the really fundamental things about co-partnership is, that it has been and is successful where independently and equitably applied. In almost every basic industry in the country, in almost all of our large industrial areas, you will find pioneer firms, who, according to the requirements and needs of their own industries, of their own works, and of their own districts, have applied the essential principle in varying degrees, by varying methods, with a diversity of successful results.

I am quite sure that you would not desire me, on the present occasion, to give you a lengthy account of the history of co-partnership. Your programme at this Conference contains names in its list of speakers of more than one whose firms have been pioneers. As long ago as 1892, Messrs. J. T. & T. Taylor, Ltd., introduced a scheme of profit-sharing into their works. Any review of the development and present practice of co-partnership and profit-sharing must necessarily include a large number of other names sufficient in themselves to demand fruitful inquiry, such as Beardmore's, Armstrong Whitworth's, the Bradford Dyers' Association, and those of a large number of the great gas companies.

Yet, in spite of the great measure of success obtained by various individual firms, co-partnership and profit-sharing as practical methods of business, as useful instalments of industrial reform, continue to be regarded by a large number of people as purely experimental. Indeed, none of the industrial concerns which have adopted co-partnership would urge that the possibilities that have been opened up by the

application of the general idea have yet been fully explored. Conditions vary enormously, not only from industry to industry, but even from firm to firm, engaged in the same class of work. Each firm will need some variation of a widely expanded scheme, and each individual plan adopted will vary according to the emphasis or lack of emphasis placed by the firm concerned upon the one or the other aspect.

For it must be recognised that, in the various connotations of the term, as used by the Labour Co-Partnership Association, co-partnership embodies various ideas: simple profit-sharing, joint industrial committees, workers' shares, and so on. The result is that, although co-partnership has been before the public as a practical means of industrial reform since the Royal Commission of Labour of 1894, it is still difficult to make a simple analytical summary of the various schemes which have been evolved or applied; while, on the other hand, it remains easy to believe that some particular aspect of the problem might well be more fully developed than it has yet been in actual practice.

“ GAIN-SHARING ”

One such aspect I should like to touch upon this afternoon, if only because I believe it to be of special importance to British industry at this particular juncture. In so doing I think I should make it clear that I quite realise I may be leaving the broader aspects of the subjects for the less broad, and that the particular aspect may by some people even be regarded as hardly falling within the scope of your general discussion. I refer to the system which is distinguished by the Ministry of Labour under the name of “ gain-sharing ”. So far as I have been able to discover, only one official report on this subject has ever been made public. That is a document prepared by Mr. D. F. Schloss, of the Board of Trade, issued in 1895, the covering letter of which stated that: “ The present report is believed to contain the first systematic account . . . which has been published ” of systems of bonus on production. In order to make clear the nature of this Report, I cannot do better than to quote its second paragraph, which runs as follows :

The fundamental distinction between profit-sharing and those systems of remuneration which form the subject of inquiry on the present occasion is that while under a scheme of profit-sharing the employee receives by way of bonus, in addition to his ordinary wages, a share in the profits of the business in which he is engaged, under the systems now under consideration . . . the employee receives, as an incentive to the display of a special degree of efficiency, a bonus, the amount of which is altogether independent of the profits earned or the losses incurred by the business, and which is strictly proportionate to the extra activity, carefulness and intelligence exhibited by him, measured by the reduction effected in the cost of production as compared with certain standard costs.

I want this afternoon to emphasise my conviction that a widespread knowledge and application of the suggestion here thrown out would do much to stimulate our industries at a time when the major problem demanding attention, at least so far as our export trade is concerned, is the reduction of the margin of difference between the prices at which British and foreign goods are offered in overseas markets, or, shall we say, the margin between the British sellers' and the foreign buyers' prices. The gap is not an insuperable one, but to seek to bridge it, as some suggest, by the sole medium of extensive wage reductions is only to add, through the agency of embittered conflict, to the embarrassments with which industry and trade are already beset. If, on the other hand, it were much to the interest of all concerned in manufacture to keep cost of production down to the lowest possible level, it is surely not too much to expect an appreciable result, and to anticipate in consequence such reductions in the price of commodities in both the home and foreign markets as would, by stimulating demand, give industry the fresh impetus for which it has been so long and so vainly waiting.

It is unfortunate that reliable and up-to-date information as to the working of schemes along these lines should not be more readily available. Perhaps it is not too much to hope that the Government may before long come to consider that during the interval of more than thirty years since Mr. Schloss' Report appeared fresh evidence may have accumulated that would serve to throw light on our pressing needs. The Labour Co-Partnership Association itself, closely in

touch as it is with existing practice, might prepare a valuable statement of the case.

BONUS ON REDUCTION OF COSTS

It is at any rate possible to give a few examples, not all very recent, which go to show that costs of production can be substantially reduced, and output itself largely increased, by means of some sort of bonus on the reduction of costs. Such reductions may be sought along two main lines, (i.) in the more economical use of materials by the workers, and (ii.) in the more economical use of their time and skill. Any increase of output secured involves, of course, in addition, a corresponding diminution in the cost of overhead charges.

Instances that leap up to the mind are provided, of course, by most of the gas companies in this country, whose shareholders' profit also hinges closely on cost of production. Take, for example, the *South Suburban Gas Company*.

Until the gas is sold to the consumer at less than 2s. 9d. per 1000 cubic feet, the interest to the shareholders cannot by law rise above 5 per cent per annum. For every 1d. fall in the price of gas the workers may receive an additional $\frac{3}{4}$ on the £100, and the shareholders one-sixth per cent. The Company has arranged with all workers who "sign on" that for every fall in the price of gas below 3s. 1d. per 1000 cubic feet they shall receive a dividend of $\frac{3}{4}$ per cent on their total annual wages, and, in addition, it is guaranteed that this dividend on wages shall not fall below $\frac{3}{4}$ per cent so long as any interest whatever is paid to the shareholders.

This practically means that when the price of gas is not less than 3s. 1d. the workers get a dividend on wages of 15s. on the £100, and the shareholders any interest not over 5 per cent which the profits will allow. If the price of gas is lower than 3s. 1d. but not less than 2s. 9d., the interest cannot rise above 5 per cent, but the dividend on wages will rise to $3\frac{3}{4}$ per cent. After that point, consumer, shareholder and worker receive increased benefits together, so that if the price of gas fell to 2s. 3d. the shareholders' interest would rise to 6 per cent and the workers' dividend to $8\frac{1}{4}$ per cent, which is about equal to a month's wages.

This dividend on wages is the absolute property of the employee ; one-half is used for the purchase of shares in the open market, and the other half is placed on deposit with the company at seven days' notice

EXAMPLES IN MUNITION MANUFACTURE

Examples of bonus dependent upon the reduction of costs secured by economical use of material may be drawn from the experience of various firms of munition manufacturers during the war. One scheme of this sort adopted by Armstrong Whitworth & Co., Ltd., provided that if in any week the total scrap were less than 5 per cent of the forgings, a bonus of 9d. per hundred forgings would be paid ; if it were less than 4 per cent, the bonus would be 1s. 6d. ; less than 3 per cent, bonus 2s. 3d. ; less than 1 per cent, bonus 3s. 9d. The firm of Kynoch's Ltd. had men and women gaugers employed in testing cartridges as they were turned out by the machines, so that faulty production might be detected at the earliest possible moment. Under a new scheme, the men received 10s. and the women 5s. per week bonus if the percentage of waste was reduced to a defined standard. If the waste reached the percentage considered to be the lowest attainable, additional bonuses of the same amount were awarded. Within four months a reduction of waste was effected which represented an annual saving of £20,000. As to the general interest in securing efficiency of production to be obtained by such a system of bonuses, I can testify from my own personal experience of the bonuses awarded in the works of Messrs. Brunner, Mond & Co., Ltd., on the elimination of the loss in ammonia and on the economical use of fuel.

THE MOND NICKEL SCHEME

Further reference to a scheme within my own knowledge may serve to show that a gain-sharing system may quite easily operate as part of the wider scheme containing the more familiar elements of profit-sharing and co-partnership.

The Mond Nickel Company at its works is engaged in the production of metallic nickel, nickel sulphate, nickel ammonium sulphate, and copper sulphate. These various

metallurgical processes are all interlocked and dependent on each other to obtain the final marketable products. In endeavouring to arrive at a basis of cost of production, it therefore became necessary to calculate the cost of the various products back to one standard. The main product, nickel, was chosen for this purpose, and the average cost to produce a ton of metallic nickel was adopted for the purpose of this scheme. The average cost in the year 1924 was taken as a basis.

It is worth emphasising this, as it is sometimes thought that if various products are produced from a certain process or constituent to those processes, a scheme of gain-sharing of this character cannot be carried out. I would point out that the standard cost adopted for this purpose is a calculated one, and has no necessary reference to the actual works or plant cost. It was deliberately fixed at the time when it was known there were going to be considerable reductions in the cost of production owing to improvements which had been made, and which would come into operation, the benefit of which the Board felt they would like to share with the staff and the workmen. The amount, therefore, which they received as their participation was anticipated to be, and has proved to be, very considerable.

Provisions have also been made for fluctuations and fundamental changes in cost as well as rate of interest on capital to be invested. These are necessary elements to keep a fair balance between the interests of the capitalist and the interest of those engaged in production. A further point is, this scheme endeavours to combine gain-sharing and profit-sharing in one scheme, and that, I believe, is unique.

THE SCHEME IN DETAIL

I cannot do better than detail the relative sections of the scheme as set out in the official document :

PARTICIPATION IN SAVING IN COST

(A) *Monthly Credits and Debits*

1. For the purpose of this Scheme (which shall be deemed to have come into operation on the 1st day of March 1925), and in

order to ascertain the saving in cost, the actual cost of production shall be calculated for each month.

2. When in any month the Actual Cost of Production is less than the Standard Cost, the amount of such difference between the Actual Cost of Production and the Standard Cost shall be credited to the general account as follows :

- (a) The whole of any saving in cost up to and including £2 per ton shall be credited to such general account.
- (b) If such saving in cost exceeds £2 per ton but not £3 per ton, there shall be credited to such general account, in addition to the whole of the first £2 per ton so saved, 50 per cent of the balance of such saving in excess of £2 per ton up to £3 per ton.
- (c) If such saving in cost exceeds £3 per ton, there shall be credited to such general account, in addition to the amounts above specified, 25 per cent of the balance of such saving in excess of £3 per ton.

3. When in any month the Actual Cost of Production exceeds the Standard Cost, the amount of such excess shall (subject as hereinafter provided) be debited to the general account as follows :

- (a) The whole of such amount up to and including £2 per ton shall be debited to such general account.
- (b) If such amount exceeds £2 per ton but not £3 per ton, there shall be debited to such general account, in addition to the whole of the first £2 per ton of such amount, 50 per cent of the balance thereof in excess of £2 per ton up to £3 per ton.
- (c) If such amount exceeds £3 per ton, there shall be debited to such general account, in addition to the amounts above specified in this sub-clause (3), 25 per cent of the balance of such amount in excess of £3 per ton.

4. Of the total amount credited or debited in each month to the general account 75 per cent shall be allocated to the workmen and 25 per cent shall be allocated to the other employees, and such proportions shall accordingly at the end of each month be carried from the general account to the credit or debit of separate accounts.

5. The total amount so credited or debited to the separate account of the workmen in each month shall be apportioned amongst the workmen individually in proportion to the hours worked in such month by such workmen respectively at the standard rate of wages paid to such workmen respectively during such month, and no addition shall be made in the case of workmen on day work in respect of any additional rate of wages paid by the Company for work on public holidays or overtime, or in the case of workmen on shift work in respect of any additional rate of wages paid by the Company for work on public holidays or for week-end work.

6. The total amount so credited or debited to the separate account of the employees (other than workmen) in each month shall be apportioned amongst them individually in such proportion as shall be determined by the Company from month to month, and in arriving at such apportionment the Company shall take into account the salaries paid to such employees respectively.

7. As soon as practicable after the close of each month each employee shall be duly informed in writing by the Company in such manner as the Company may determine of the amount (if any) credited or debited to him under this Scheme for such month.

(B) *Annual Account*

1. As soon as practicable after the end of each financial year an account shall be taken by the Company, who shall ascertain the balance (if any) standing to the credit of each employee in respect of such financial year after deducting all sums (if any) debited to his account in respect of such period. In the event of such account showing a balance under this clause to the debit of any employee at the end of such period, such debit shall be cancelled and shall not be carried forward to the debit of the account of such employee in any subsequent financial year.

2. The amount so ascertained to be standing to the credit of an employee at the end of a financial year shall (subject as hereinafter provided) be a capital credit owing by the Company to such employee.

3. The Company shall so soon as any amount shall be ascertained to be so standing to the credit of an employee, issue to him a non-transferable certificate showing the amount so ascertained, and shall upon the amount of each successive annual capital credit being ascertained under this Scheme endorse upon such certificate particulars of the amount of such annual capital credit.

4. Copies of the Certificate of the Auditors for the time being of the Company, as to the amount to be credited or debited to the general account under this Scheme at the end of every financial year shall be posted up at the Clydach Works of the Company.

INTEREST AND BONUS

(A) *Fixed Interest*

Every annual capital credit of each employee shall bear simple interest at the rate of 5 per cent per annum, calculated from the 1st day of May immediately succeeding the period for which such annual capital credit shall be ascertained. Such interest shall be payable (subject to deduction of income tax) not later than the 1st day of August in each year, the first payment of interest in respect

of any annual capital credit being payable not later than the 1st day of August in the financial year following the financial year in which such annual capital credit begins to bear interest.

(B) *Bonus*

Whenever the Company shall in respect of any financial year declare a dividend on its Ordinary Share Capital for the time being at a rate exceeding 5 per cent thereon, the employees shall (subject as hereinafter provided) be entitled to receive an additional sum from the Company by way of bonus in respect of such financial year upon the amounts from time to time standing to the credit of their respective capital accounts at the end of the previous financial year under this Scheme, provided that no bonus shall accrue in respect of the capital account of any employee in respect of the period commencing on the 1st day of May in the financial year in which he shall die or retire or cease to be in the employment of the Company. Such bonus shall be calculated at a rate per annum equal to one-half of the excess of such rate of dividend over 5 per cent, and shall be payable (subject to deduction of income tax) not later than the 1st day of August in the financial year following the financial year in respect of which the dividend at such rate on such Ordinary Shares of the Company is so declared.

VARIATION OF STANDARD COST

If at any time during the continuance of the Scheme any change or modification or improvement shall be made in the process of manufacture or in any plant which results in a substantial alteration in the actual cost of production, the Board of Directors shall by resolution vary the Standard Cost in such manner as it shall in its absolute and uncontrolled discretion determine, having regard to such change, modification or improvement, and the standard cost as so varied shall be the standard cost for all the purposes of the Scheme until again varied in accordance with this rule.

The scheme has been very successful. The lowest paid worker has received an average of 9s. per week rising to 12s. 6d. per week for the ordinary shift man. These workers are in effect in the position of cumulative participating preference shareholders, and the total credited to them exceeds 20 per cent of their wages.

A BEARDMORE EXAMPLE

Bonus systems designed to reduce cost of production by securing increased output by the saving of time spent in

manufacturing processes are thought of in connection with the names of Halsey & Rowan. Both are based on the principle of guaranteeing an hourly rate of pay to the worker, and of setting a standard time for the performance of the job. Rapid workers are then paid, in addition to the hourly wage, a premium representing a proportion of the time saved on the standard time allotted.

An important example of the practical working of one application of this idea is provided by the experience of Messrs. Wm. Beardmore & Company, Limited, during the war. In one case a job done on the premium basis in 25 hours and 5 minutes was afterwards done on time in 50 hours; in another, the times were 25 and 40 hours respectively.

Engineering Work—Marking off Section

Marking off howitzer timber for machinery :

On time, 4 hrs. each ; on premium, 1 hr. 6½ m. each.

Increase in output, 260 per cent.

Fitting Section—Submarine Work

Work on brackets for battery vent fans :

On time, 19.5 hrs. ; on premium, 10.5 hrs.

Percentage increase in output, 85.

Aeroplane Work

Put on and sew cover complete—tail plane :

On time, by a skilled man tailor, 16 hrs.

On premium, by a woman novice, 9 hrs.

Increase of output, 77 per cent.

Painting Section

Varnish (2 coats) and paint (1) lower plane B.E.2.C. machine :

On time, by men, ships' polishers, 24 hrs.

On premium, by women novices, 12 hrs.

Electricians' Work

Work on brackets for main motor switch boards :

On time, 19½ hrs ; on premium, 12 hrs.

Percentage increase, 62.

Brassfinishers' Work

Fitting and finishing off universal joints :

On time, $3\frac{1}{2}$ hrs. ; on premium, $2\frac{1}{3}$ hrs. Percentage increase, 50.

Fitting Downton valve completely with lock for nut :

On time, 4.5 hrs. ; on premium, 2.48. Percentage increase, 60.

Fitting and finishing off locker hinges :

On time, 1.75 hrs. ; on premium, 1 hr. 7 m. Percentage increase, 56.

THE PRIESTMAN SCHEME

The profit-sharing scheme of Messrs. Priestman Bros., Ltd., of Hull was launched in March 1917, with the goodwill of the trade unions involved.

It is based on the principle that if a number of men on ordinary day rates pay, in a given time are capable of producing a certain quantity of finished machinery, called the "standard", then if, without adding to the number of men employed or the hours worked, by greater individual effort the output is increased, the day rate wage can be supplemented by a percentage equivalent to that by which the actual output exceeds the standard. The standard in these works is calculated in terms of the weight of the finished machinery.

The scheme provides so that the standard varies in direct proportion to the total number of hours worked by the whole of the employees. If more men are employed, or more hours are worked by the same number of employees, the standard is more, and if fewer hours are worked the standard is less. In the event of methods of production being appreciably improved, the scheme provides that by *mutual* arrangement the standard may be altered. If, during any month, the output falls below the standard, the amount must be made up in the following month before the excess is calculated.

The Works Committee holds a monthly meeting with the management to agree the amount of output, and as much as this exceeds the standard, by so much more are the earnings of each employee increased for the four following weekly pay-days.

The staff, foremen, skilled and unskilled workmen and apprentices participate in this scheme, which is found in practice to produce a spirit of co-operation and good fellowship throughout the whole establishment.

Messrs Priestman employed between three and four hundred workers of all grades, and were paying them in accordance with various time-work and piece-work schemes. Such diversity of remuneration had led to disparities in earnings, discontent among the workers, unequal speeding up in mutually dependent workshops, and consequently to disorganisation of production. This was completely remedied by the introduction of an overhead piece-work scheme. The firm determined that the estimated average monthly output (110 tons of machinery) should be taken as a standard, and that in whatever proportion it might be exceeded, in the same proportion should the aggregate wages of the workers be increased. To secure the workers' support, a general 10 per cent increase in wages was given, irrespective of increased output.

In the first nine months of the scheme, output averaged 57 per cent more than the standard, the workers receiving wages augmented by 67 per cent. According to the firm, the men were fully satisfied with the scheme, and worked in a much better spirit than before. Mr. Cecil Walton stated that, at the end of the first three months, the output was increased by 80 per cent.

THE WORKERS WILL CO-OPERATE

There can be no doubt then, that, given a financial incentive, the workers will co-operate with the management in securing appreciable reductions in working costs. Many questions arise on the formulation of a detailed scheme with which I cannot now deal—particularly such questions as the determining of standards of output, cost and time expenditure, and of the division of the reductions secured. Those are details which can be solved in a spirit of goodwill, as many here have been solving them for many years past. What I am now concerned to stress is the fact that here we have a broad and intelligible principle, vitally important in

its application to every British industry, and to the future of British trade. Will not the Government recognise its importance? Let it inform us fully of what has already been achieved, let it call on our industries to prepare to apply the principle to their own particular conditions, and then let industry, in a true spirit of co-partnership, stretch out its hand for the prosperity that is within its grasp.

I have, perhaps, spent too much time upon one aspect of the question, but this I would justify on the grounds of the importance of cost of production to British export trade in its present straits. Whatever the details of the scheme which is applied, provided it is equitable in its results, I feel that it is a certain method of making every one engaged in industry interested in the results of the work. A universally compulsory scheme seems to be impracticable, owing to the variety of plans which will only suit particular industries. Still, the idea of legislation compelling industries and firms to work out schemes which would have statutory sanction is well worthy of consideration. It must be recognised that while enterprise is entitled to just reward, labour is equally entitled to fair remuneration. From conversations I have had with the workers and their leaders, as well as with progressive employers, I am convinced that these ideas could be carried out with a general acceptance.

The question we have to consider at the moment is, whether the time has not come when some legislative action is possible, for thinking men in industry are getting more and more convinced that this is the right line of future industrial development.

AN APPEAL

In conclusion, may I make an appeal? I would appeal to all those, to whatever section of the industrial or political community they belong—whether they be those who are concerned with the direction or management of great industrial undertakings, or whether they be workers in productive enterprises—to remove suspicion and distrust of each other from their minds. For too long, co-operation in industry has been feared by one side, because it has been

thought that there were only a limited number of people who could contribute usefully to the direction of affairs ; and looked askance at by the other side, under the unjust assumption that, when any progressive man desired to work in harmony with his co-workers, it was the first sign of some deep-laid plot to infringe upon the industrial or political liberty of the worker. The many successful experiments which have already been made prove that, where good-fellowship and good-feeling prevail, profit-sharing and co-partnership are useful and fructifying means of improving the material position, of easing the physical strain, and of securing the moral and mental contentment of those who participate in them. For all agencies in production are equally interested in the fruits of their endeavours. When industry is depressed, the shareholder (and the preponderating majority of shareholders in this country are small shareholders) receives no return upon his investment, and the workers—or a large proportion of them—are thrown into a state of despondent idleness, with no useful purpose to occupy their hands or their minds—with nothing except an unemployment benefit or Poor Law relief to keep the wolf from the door.

There are sufficient uncertainties and disasters in industry, without having the human factor added to the complications. The course of the seasons, the toll of the sea, famine and disease, wars and other tumults—the control of these is often beyond the wit and wisdom of man. But it certainly should be within human capacity to devise some means whereby all people with a common object should work together for a common purpose. In your subsequent meetings you are going to consider the various aspects of co-partnership : what it has achieved in practice ; what its relationship is to trades unions, the coal industry, and to welfare. I have only been able in a cursory way to call your attention to a few of the vital conditions which prevail to-day. In all my long experience of industry, I have always endeavoured, and I shall always endeavour, to work on the very best possible terms with all those who are associated with me in any capacity whatsoever. We have applied the principles to our own concerns, and we find that our fellow-workers

are satisfied, contented, take an interest in their work and in the general welfare of the business. There is much useful work to be done by those who have the desire, the courage and the patience. For obstacles await reformers, inevitably, on every side ; but with a good heart, a willing hand, and a sure tread upon the path of progress, those who believe in co-partnership can render great service to their own industrial community, their country, and to civilisation.

ARBITRATION AND INDUSTRIAL DISPUTES

THE industrial disturbances of the years since the conclusion of the war have focussed increased attention upon the method of arbitration as a means of deciding industrial disputes. If the coal dispute of 1926 is taken as an instance, it becomes quite apparent that the trouble could have been ended many months before peace was made or a truce was called. For there was no great question of fundamental principle involved in the struggle. For some months the only outstanding points were minor ones—detailed questions of hours and wages—which could have been equitably determined by some impartial tribunal. The cost to the community by the absence of the necessary machinery was colossal, but if the country would only learn the one real lesson, the great losses incurred would not have been made in vain.

For some years there have been beneficial influences in the country endeavouring to create an atmosphere suitable to industrial peace, but the calamity of a coal dispute and its consequences, which must long persist, have emphasised the moral more effectively than years of preaching. It is now realised by the vast mass of the nation that civil war, whether waged for political or industrial purposes, is a crime against the community. A new task has therefore been imposed as a paramount duty on all statesmen, industrialists and Trade Union leaders. That task is to devise means to ensure that outbreaks of industrial strife in the future are rendered impossible. No country can afford to be devastated perpetually by the perils and the horrors of industrial war, for, in any war, the great majority of the population, through age, sex or occupation, are non-combatants. In industrial warfare women and children have a right to immunity from the worst horrors of the conflict, as non-combatants. During

industrial struggles women, children and men in allied arms of industry suffer sometimes more than the actual combatants.

The present is a time when economic facts and necessities are in the forefront of the problems of existence. This is as true nationally and imperially as it is true of any industry or any individual. The tendency in industry is for larger and larger units ; the tendency in international arrangements is for economic understandings. Organisation of industry and of industries is becoming of increasing importance. Therefore a main problem is, How can industry be organised in such a way that the sporadic crises which time after time have been occasioned by industrial disputes shall be eliminated from the history of the country ? In other words, What is the most effective machinery for the achievement of industrial peace ?

Among the methods which demand constant attention and continual investigation is the one of the establishment of arbitration tribunals. This is a method for the conciliation of industrial disputes to which for several years I have given a good deal of attention, and I am glad to see that, after our recent terrible experience, Labour leaders and leaders in industry are both paying tribute to the idea of arbitration. This interest has already ventilated itself in the presentation of a Bill to the House of Commons advocating the idea, and by a comprehensive amendment which was moved during June to add a scheme of arbitration to the Trades Union and Disputes Bill.

A RECENT SCHEME FOR ARBITRATION

This amendment deserves detailed consideration and exposition. The proposals were restricted to any trade dispute in any essential service—that is to say, to any industries, trades or services essential to the life of the community—coal-mining, transportation, supply of light, power or water and any public health service, or any other service which might be declared by Order in Council, by reason of any real or apprehended national emergency, to be subject. As long as the provisions of Part IV. of the

Railway Act of 1921, or any amending Act, continued in operation, transportation by railways was not to be considered an essential service to which the proposals were to apply. Whenever disputes between employers and employees could not be mutually settled, either party might apply to the Minister of Labour for the appointment of a Board of Conciliation and Investigation. The board was to be established by the Minister within fifteen days of the application, and was to consist of three members, to be appointed by the Minister—one on the recommendation of the employer, one on the recommendation of the employee, and the third (who was to be chairman) on the recommendation of the other two members. On the failure of either party to make any recommendation, the Minister was to appoint the member; and on the failure of the two members chosen on the recommendation of the parties to recommend the name of the chairman, the Minister was again to have the power of appointment.

So much for the constitution of the board. Its duties were equally carefully defined. When a dispute was referred to a board, it was the duty of the board to endeavour to bring about a settlement by expeditious and careful enquiry into the merits. In the course of the enquiry the board could make any suggestions and take any such course as it deemed right and proper to induce the parties to come to a fair and amicable settlement. When a settlement was arrived at, a memorandum of the settlement was to be drawn up by the board, signed by the parties, and a copy, together with a report upon the proceedings, forwarded to the Minister. In the event of a settlement not being arrived at, the board was to make a full report to the Minister. Such a report was to set forth the various proceedings and steps taken by the board to ascertain all the facts and circumstances, relate those facts and circumstances and its findings, including the cause of the dispute and the board's recommendations for settlement. The recommendations were to deal with each item of the dispute, and to state in plain terms, without technicalities, what the board thought ought or ought not to be done by the respective parties. The board also had power to recommend the duration of the settlement and the date from which it should commence. For the information

of Parliament and the public, the report and recommendations, together with any minority report, were to be published without delay.

Once a dispute had been referred to a board, it was to be unlawful for any lock-out or strike to be declared or caused. Employers and employees were to give at least thirty days' notice of an intended change affecting conditions of employment relating to wages or hours. In the event of such an intended change resulting in a dispute, until the dispute had been finally dealt with by a board, the relationship of the parties was to continue uninterrupted by the dispute or anything arising from the dispute, but this was not to permit either party using the proposals for the purpose of unjustly maintaining a given condition of affairs through delay. A penalty of not less than £20, nor more than £200, per day was to be imposed on any employer declaring or causing a lock-out; a penalty of not less than £2, nor more than £10, per day was to be imposed on any employee going on strike. For incitement, encouragement or aid in the declaration or continuance of a lock-out, or commencement or continuance of a strike, a penalty of not less than £10, nor more than £200, was to be imposed.

Either party to a dispute could agree in writing, at any time before or after the board had made its report and recommendation, to be bound by that recommendation, in the same way as parties are bound upon an award made pursuant to a reference to arbitration by consent. Such an agreement by one party was to be forwarded to the Registrar, who was to communicate it to the other party. If the other party similarly agreed to be bound by the recommendation, on the application of either party it was to be enforceable in the same manner as an award.

ARBITRATION IN CANADA

This comprehensive scheme for the application of the principle of arbitration in industrial disputes in Britain was based upon the Industrial Disputes Investigation Act, which was passed in Canada in 1907. The essential feature of this Act was that, in disputes arising in connection with certain

vital industries, no strike or lock-out could be lawfully declared until the dispute had been dealt with by a Board of Conciliation and Investigation. The general course of procedure for the appointment and progress of the board followed the proposals which have been outlined above. When first enacted, the Industrial Disputes Investigation Act applied directly to mines and public utility industries, including "railways (whether operated by steam, electricity or other motive power), steamships, telegraph and telephone lines, gas, electric light, water and power works". The Act was extended in 1920 to include any number of such persons, companies or corporations acting together, and who, in the opinion of the Minister, had interests in common. The constitutional validity of the Act was called into question in 1923. The case came before the Judicial Committee of the Privy Council, who decided that the statute as it stood encroached upon the rights of provincial legislature, and was therefore invalid. In 1925 amendments to the Act were passed in conformity with the judgment of the Judicial Committee of the Privy Council. The operation of the Act was confined to matters not within the legislative jurisdiction of any province. The statute is still applicable to industrial disputes in any business "which is within the legislative authority of the Parliament of Canada". The businesses are defined in the amending Act as follows :

- I. (a) works, undertakings or business operated or carried on for or in connection with navigation and shipping, whether inland or maritime ;
- (b) lines of steam or other ships, railways, canals, telegraphs, and other works and undertakings connecting any province with any other or others of the provinces, or extending beyond the limits of the province ;
- (c) lines of steamships between a province and any British or foreign country ;
- (d) ferries between any province and any British or foreign country, or between two provinces ;
- (e) works, undertakings or business belonging to, carried on or operated by aliens, including foreign corporations immigrating into Canada to carry on business ;
- (f) such works as, although wholly situate within the province, have been or may be declared by the Parliament of Canada

to be for the general advantage of Canada, or for the advantage of two or more of the provinces ;

- (g) works, undertakings or business of any company or corporation incorporated by or under the authority of the Parliament of Canada.
2. any dispute which is not within the exclusive legislative authority of any provincial legislature to regulate in the manner provided by this Act.
 3. any dispute which the Governor in Council may by reason of any real or apprehended national emergency declare to be subject to the provisions of this Act.
 4. any dispute which is within the exclusive legislative jurisdiction of any province and which by the legislation of the province is made subject to the provisions of this Act.

It may be mentioned in passing that, under this last section, five provinces—those of British Columbia, Saskatchewan, Manitoba, New Brunswick, and Nova Scotia—have enacted enabling legislation by which the terms of the Federal statute are made applicable to disputes of the class named in the Dominion Law, and otherwise within exclusive provincial legislation. Moreover, the province of Alberta, in 1926, adopted a Labour Disputes Act of its own, which resembles generally the Federal statute. The provincial law relates to all industries, and omits any provision prohibiting strikes and lock-outs pending the report of a board. Also, since 1921, Quebec has had on its statute books a Municipal Strike and Lock-out Act, which was amended in 1922. This provincial statute follows closely the lines of the Federal Industrial Investigation Act, and provides for the compulsory investigation of disputes as to wages and conditions of labour involving municipal employees.

THE RESULTS OF THE CANADIAN ACT

The results of the Industrial Disputes and Investigation Act may be briefly judged by the fact that, over the nineteen years 1907–26, despite the constitutional difficulty which arose, 642 applications were received under its provisions for Boards of Conciliation and Investigation. Four hundred and fifty boards were constituted, and in all but 37 of the disputes the threatened strike was averted or ended through

the instrumentality of the Act. Of the remaining 192 applications, on which boards were not constituted, in some instances the applications had been made under a misapprehension, or the dispute was not one which could be properly referred to boards under the provisions of the statute. Several disputes were adjusted by the mutual efforts of the parties concerned while action was being taken towards the constitution of the board, and the application was withdrawn. Also, on many occasions, it happened that, upon the receipt of the application a special representative of the Department was sent to the scene of the dispute, and through his intervention direct negotiations between the disputing parties were renewed, and a satisfactory working arrangement resulted.

The following table, showing proceedings by industries from March 22, 1907, to March 31, 1926, gives the detailed results of the proceedings under the Act :

Industries Affected.	Number of Applications for Boards Received.	Number of Strikes not Averted or Ended.
I. Disputes affecting mines, transportation and communication, other public utilities and war work :		
1. <i>Mines</i> :		
(a) Coal	71	10
(b) Metal	20	5
(c) Asbestos	1	..
2. <i>Transportation and communication</i> :		
(a) Steam railways	193	7
(b) Street and electric railways . .	106	7
(c) Express	11	1
(d) Shipping	32	..
(e) Telegraphs	21	1
(f) Telephones	7	..
3. <i>Miscellaneous</i> :		
(a) Light and power	24	3
(b) Elevators	1	..
4. <i>War work</i>	30	1
II. Disputes not falling clearly within the direct scope of the Act	125	2
Total	642	37

Following the amendment to the Act of 1925, and

pending action being taken by the provincial legislatures to pass legislation investing authority in the Federal law, a lull took place in the proceedings. In 1925-26, for example, but four applications were received. In three cases the disputes were adjusted by mutual agreement whilst steps for the constitution of boards were being taken; as the fourth case involved a jurisdictional dispute between two unions, no board was established. As examples of two recent results, take the month of April 1927. Reports from two boards and applications for four boards were received. In one case the board unanimously recommended an increase of 3 cents an hour to the employees concerned. The second report, which affected 15,000 workers on the Canadian National Railways, the report of the chairman and employees' nominee, contained recommendations with respect to wages only. The differences as to working conditions were to be made the subject of negotiations between the parties concerned, and in the event of these failing to reach an agreement, the board would be reconvened to consider this aspect of the dispute.

ATTITUDE TOWARDS THE ACT

Before considering in further detail the implications of the Act and proceedings taken under it in Canada, it would be well to give a quotation from the *Labour Gazette* of March 1925, published by the Department of Labour, Canada, which summarises the atmosphere in which the Act operated, and the general attitude towards it :

Neither can formal reports on the operation of the Canadian Act give any adequate idea of the importance of the conciliation work, which results in satisfactory adjustments through correspondence or mediation by an officer of the Department, and renders unnecessary the appointment of a Board of Conciliation and Investigation.

Of the sixteen years since the enactment of the Industrial Disputes Investigation Act by a Liberal Government, six have been years of Conservative administration and four were years under Coalition or Union Governments. No attempt has been made by either Party to repeal the Act, and no amendments undermining the principle of the community's right to be informed regarding

a dispute in certain industries before a stoppage is permitted have been proposed; the changes made in 1918 and 1920 only extend this principle, and are designed to simplify procedure under the Act.

The attitude of the employers and workmen towards the Act appears, on the whole, friendly, the watchful and half-suspicious attitude adopted at first having given way to one of co-operation in carrying out the terms of the statute, and of seeking to amend it from time to time to facilitate procedure. It is to be expected that dissatisfaction with the findings of a board should occur occasionally, and should colour the view taken of the statute itself for a time; but as the personnel of each Board of Conciliation varies from another, and as the nomination of members rests with the parties, the hope of a more acceptable award next time tends to allay any feeling of irritation. Since the meeting of the Trades and Labour Congress in 1918 the resolutions regarding the Industrial Disputes Investigation Act which have been adopted have been in favour of its extension to cover other classes of employees.

OPERATION OF THE ACT

There have been occasions when boards have been established, although a strike has been improperly entered into, and the dispute dealt with as if the strike had not been declared. Also, within recent years, the possibility of an amicable adjustment by Departmental mediation has grown considerably. Though the appointment of boards, without the consent or agreement of the parties, is vested in the Minister, the rule has been not to appoint a board without the consent of the parties, whether this is given voluntarily or reluctantly. It has been general, also, to leave the enforcement of the penal provision to the aggrieved parties, and the general tendency has been a lack of desire to take the responsibility for Court proceedings, except in a few instances. Not in a single case has an effort been made to prosecute a large body of men for striking. Out of eighteen cases in which proceedings were taken by parties, eleven were prosecutions for illegal strikes, for inciting or aiding a strike. Of these, seven were sustained by the Court. The only two cases for the enforcement of an agreement based on an award of a board were dismissed.

The Delegation appointed to study industrial conditions

in Canada and the United States of America summarised their views on the operation of the Act as follows :

It seems clear that the Act has been of practical service mainly as a formal and public means of conciliation, and only when one or both parties has desired public intervention and has been willing to have regard to the views of the general community. With the exception of the power to subpoena an unwilling party to give evidence, the administration of the Act has been on a voluntary basis, and disputes affecting public utility undertakings have not necessarily been the subject of public enquiry. In practice the Act has come into operation without penalties only when one of the parties has declared a stoppage to be imminent and has applied for a Board. If time has permitted, an attempt has usually been made by the Department, when an application has been received, to secure a settlement by less formal conciliation. It has often appeared that the exercise of patience on the part of the disputants would permit the continuance of direct negotiations, and the appointment of Boards has been avoided by a settlement being reached by this means. In about 60 per cent of the cases dealt with the reports of the Boards have been unanimous. In others there have been majority and minority reports, and on occasion three reports.

ARBITRATION IN AUSTRALIA

Nor is Canada alone among the Dominions in endeavouring to provide a means to secure industrial peace. The Commonwealth of Australia has had a Court of Conciliation and Arbitration since 1907, and many of the states have also passed Acts at various times to provide machinery for the purpose of settling industrial disputes. For example, the President of the Industrial Court of South Australia states that the term " industrial matters " is so widely defined in the South Australian Industrial Arbitration Act of 1912 as to include almost every conceivable question likely to arise between employer and employee, including wages, hours of employment, sex, age, qualification or status of employees, apprenticeship, employment of children, the right to dismiss, or the right to employ or reinstate in employment persons or classes of persons in any industry, and all questions of what is fair and right in relation to any industrial matter, having regard to the interests of the persons immediately concerned and of society as a whole. The Act prohibits both strikes and

lock-outs, under penalties of fines and imprisonment. The fines may be levied on wages due or prospective, or on the association of which the offender is a member. The President of this Court stated: "The public control of industrial conditions, although it has gone far to supersede the strike and the lock-out in South Australia—a result for which much is due to the efforts and tact of Trade Union secretaries—has not been successful as a strike preventive in Australia generally".

This statement stands in some contrast with the declaration made by Mr. Justice Higgins, who was President of the Commonwealth Court of Conciliation and Arbitration from 1907–21, which is quoted elsewhere. The Federal Arbitration Act was passed in 1904, and its scope was naturally limited by the fact that the authority of the Federal Government in matters of industry was confined by the Constitution, *inter alia*, to legislation for conciliation and arbitration of industrial disputes extending beyond the limits of a single state, and to any matters referred to it by any state or group of states, such legislation to affect only such states as consented thereto. The Act dispensed with Conciliation Boards, and the whole decision in industrial matters was placed in the hands of a single judge of the Supreme Court, who, however, had the power to appoint a Conciliation Committee to supply information and advice. Strikes and lock-outs were altogether prohibited on pain of £1000 fine and three months' imprisonment, and the Federal Court showed a greater readiness than the others had done to inflict the legal remedy. The operation of the Court was hampered by the conflicting jurisdictions of states and commonwealth, though there can be no doubt that, in spite of the fact that serious strikes took place frequently, many were averted.

In 1920, by the Industrial Peace Act, a Commonwealth Council was formed, consisting of six employers, six workmen and a chairman, nominated by the Government. This Council was entrusted with the duty of considering all matters affecting industrial peace, and reporting on all industrial affairs, brought to its notice by the Governor-General. For this purpose it was given full power to summon witnesses and hold conferences. There were also to be

district councils for the separate states, or their geographical divisions, with similar functions. Also special tribunals were appointed to deal with industrial disputes referred to them. These Courts have the power to set aside or vary the decisions of the Arbitration Court. In spite of the confusion and complexity of industrial control, and the machinery for the settlement of industrial disputes in Australia at the present time, under the different and complicated interrelation of Federal and State jurisdictions, it must be admitted that it is the machinery, rather even than the halting application of the principle of arbitration which exists, which has hampered and hindered. The final conclusion must be that definite advantages have accrued from the application of the principles of arbitration.

ARBITRATION IN BRITAIN

Before we return to the subject of the application of arbitration to industrial disputes in Britain it will be as well to glance at the attitude towards the principle in this country during the last generation. The idea of compulsory arbitration in trade disputes is not new. There are eighteenth-century Acts providing for this, including an early Act of Queen Anne. Moreover, there was a time when arbitration was refused, as an attempted method of gaining recognition for a Trade Union—then an illegal society. Further, there has been in the Trade Union movement for the last twenty-five years a considerable body of opinion in favour of compulsory arbitration. As early as 1902 a resolution in favour of compulsory arbitration was moved at the Trades Union Congress, to the effect that Congress should call upon the legislature to pass an Act creating Courts of Arbitration, which should be composed of an equal number of workmen's and employers' representatives, and should be presided over by a Lord Justice. The power of the Court was to be absolute, and its decisions enforceable, provided all efforts to secure conciliation had failed. It was to apply to all industrial disputes throughout the United Kingdom. The resolution was defeated by 961 votes to 303.

The resolution was again brought forward in the Congress

of 1903; but Congress decided that the Parliamentary Committee should draft a Bill for the establishment of a Court, which should be authorised to demand evidence compulsorily in any trade dispute in which the parties had not agreed to a settlement after a month had elapsed since the declaration of a strike or lock-out. Either of the parties or a public authority should have the power to call for investigation, and should issue a public report in the event of disagreement between the parties concerned. The Court was to consist of an equal number of employers' and Trade Union representatives, and should be presided over by a chairman mutually agreed upon, or, failing agreement, the Board of Trade was to appoint the chairman. Mr. Bell introduced a Bill in 1904 on this recommendation, but there was no result.

In 1912 an interesting Bill was introduced into the House of Commons by Mr. Ramsay Macdonald, which aimed at making voluntary agreements between employers and workmen in the Port of London legally enforceable over the whole trade. The Bill proposed that, if the Port of London Authority came to an agreement with the organised labourers, that agreement should be registered by the Board of Trade, and should apply to the whole class of trade connected with the Port of London Authority. It would thus be implied in the terms of every contract for the employment of workmen in that Port, in so far as wages, hours and other conditions of labour were concerned. Mr. Macdonald, speaking on this, said: "If an employer tried to employ men as carters at less wages than those set forth in the agreement, the employer should be sued, on the ground that he was paying a wage less than the local wage, and the magistrate should be empowered to compel him to pay a wage similar to that specified in the agreement".

ARBITRATION DURING THE WAR

During the war period there were numerous examples of the application of the principle of arbitration to all those numerous industries which were employed on work essential to the progression of the war. Indeed, almost throughout

the war period, it might accurately be said about the majority of workers in this country that they worked under a system of industrial arbitration. For example, the Committee on Production in 1915 found that "during the present crisis nothing could justify a resort to strikes or lock-outs which were likely to impair the productive power of establishments engaged on Government work, and to diminish the output of ships, munitions, or other commodities required by the Government for war purposes. The Committee submitted for the consideration of the Government that the following recommendations to Government contractors and sub-contractors and to Trade Unions should be at once published, and their adhesion requested :

Avoidance of Stoppage of Work for Government Purposes

With a view to preventing loss of production caused by disputes between employers and workpeople, no stoppage of work by strike or lock-out should take place on work for Government purposes. In the event of differences arising which fail to be settled by the parties directly concerned, or by their representatives, or under any existing agreements, the matter shall be referred to an impartial Tribunal, nominated by His Majesty's Government, for immediate investigation and report to the Government with a view to a settlement."

This recommendation was adopted by the Government, and this Committee sat as the chief Arbitration Tribunal of the Ministry, and continued throughout the war.

This procedure was strengthened by the Munitions of War Acts, 1915-16, which provided that, when a dispute arising on munition work (including the building and repair of merchant ships, many classes of material, works of construction, public utility services, the supply of light and power, tramway facilities, etc.) was reported to the Board of Trade, it was made obligatory upon the board to refer to arbitration within twenty-one days any difference which appeared to be a *bona fide* difference. Any award or settlement was binding under penalty on both employers and workers. The provision enabled the Department to impress on any party who delayed answers, would not attend meetings or pursued dilatory tactics, that time was running, and

reference to arbitration would certainly be made before its expiry, and no free permission to lock-out or strike.

After the war was over, sections of the Munitions Acts dealing with the prevention of strikes and lock-outs were repealed, and the special Arbitration tribunals were abolished, but compulsory arbitration was maintained for various matters relating to prescribed rates of wages and the substitution rate of wages in the Wages (Temporary Regulation) Act, 1918. This Act was designed to facilitate the transition of industry from war to peace conditions, and was a temporary measure, originally passed only for six months, and finally to be replaced by the Industrial Courts Act of 1919.

ARBITRATION AND THE RAILWAYS AND AGRICULTURE

It should also be stressed that there are two great national basic industries to which statutory arbitration has been applied, namely, the railways and agriculture. The machinery of wage negotiation in the railways is that, in the first instance, negotiations on all questions relating to rates of pay, hours of duty and conditions of service of the traffic grades, are conducted between the railway companies and the three railway unions. In default of agreement, such questions must be referred, until otherwise determined by twelve months' notice on either side, to the Central Wages Board, or, on appeal to the National Wages Board, in accordance with the provisions of Part IV. of the Railways Act, 1921. The Act reconstituted the composition of the Central Wages Board and the National Wages Board, and the railway companies and the unions agreed upon a detailed scheme of working for these reconstituted boards, and for the establishment of Railway Joint Councils, in accordance with the provisions of this Act.

In this scheme it is provided that the National Wages Board shall announce to the parties concerned the results of their investigation and consideration on any matter referred to it, twenty-eight days from the date of reference by the railway company or Trade Union affected, following failure to reach agreement on the Central Wages Board ; and it was agreed that no withdrawal of labour should take place before

the expiration of the twenty-eight days. As Part IV. of the Railways Act, 1921, was inserted by agreement, and at the request of the railway companies and the unions, in effect the machinery set up by this Act is of a voluntary nature, though given statutory force.

The application to agriculture is upon a different basis. The Agricultural Wages (Regulation) Act, 1924, established agricultural wages committees for counties or groups of counties, and an Agricultural Wages Board for England and Wales. The local committee is presided over by an independent chairman and has representatives of the farmers and labourers in equal numbers, and, in addition, impartial members, acceptable to either side but not representing either side. The rates of wages and conditions of work are settled by a majority decision, and become implied conditions of contract in the industry, leaving the right to withhold either labour or employment. In other words, the machinery for the determination of wages and conditions is statutory, but the acceptance of the award is voluntary.

INDUSTRIAL DISPUTES AND THE COMMUNITY

In approaching the problem of industrial arbitration Britain has, therefore, before her the examples of her own Dominions, her own war-period experience, and the successful application of the principle since the war to two basic industries. One might well ask the question whether what was done here during the war, and has been successfully achieved in Canada, cannot be again safely tried? For it would appear that, in the matter of arbitration, Britain is nineteen years behind Canada. Moreover, though the military war is temporarily over, there is throughout the world to-day a great economic war in progress. Britain's efforts so far to regain her export trade have, in part, been frustrated by the incessant and internecine civil industrial war which has been waged. The recovery of this lost or grievously diminished export trade is equally important for employers and workers. It is also essential for our national and imperial progress and prosperity.

We all have still before us, and we are increasingly meeting

day by day, the results of the ravages of the coal dispute. With those results, and still further potential consequences from them, so apparent, can we imagine that, after the whole trade and commerce of the country has been outraged by a seven months' coal dispute, the principle of haphazard voluntary agreement is all that is required? Can the community be asked to continue to stand by powerless for all time while representatives of two powerful bodies, representing respectively so-called capital and labour, find it impossible to come to any agreement, voluntarily or otherwise? For the coal dispute is an outstanding example of a serious industrial dispute which, despite every possible form of intervention by the Government, within existing legislation, voluntary agreement failed to settle over a protracted period, to the immense detriment of the whole of industry throughout the country.

PUBLIC OPINION AS THE FINAL FACTOR

What is an imperative need to the industrial future of Britain is the provision of machinery to enable industrial disputes, even of the most serious magnitude, to be avoided entirely, postponed while reason may operate, or eventually, should an outbreak occur, to curtail its duration considerably. In the coal dispute, and in other industrial disputes, the public was entirely bewildered, and unable to make up its mind on the merits of the case. It is public opinion, which, under existing circumstances, is slow to operate, which is the decisive and final factor in adjudging the result or conclusion of a dispute. If the machinery is available for investigation and conciliation, whichever side provokes an outbreak of industrial warfare automatically puts itself in the wrong with the public from the beginning.

I have on frequent occasions urged a plea for the establishment of a League of Industrial Peace, based on covenants and sanctions, as the League of Nations at Geneva is founded. Here is an opportunity to lay the just foundation-stone of the great edifice of industrial peace by applying the principle of arbitration to industrial differences and disputes. The machinery by which the principle is applied

may be important, but of infinitely greater importance is the application of the principle. Some may desire voluntary arbitration. Some will put their confidence in compulsory arbitration. Some may desire one form of machinery; some another type. But none can refuse to subscribe to the idea of compulsory investigation into the causes and motives of industrial differences and disputes. The proposals which were put forward in the House of Commons recently, and which I have detailed above, have this great advantage—which to me seems more important than the adoption or application of the idea of compulsion—they postpone the outbreak of a dispute until the full facts are investigated and published. They give time for cooler consideration and deliberate judgment of those conducting negotiations. Moreover, they inform the public of the facts.

There are two branches of the public which require information. There is, in the first instance, the general community, which inevitably is the greatest sufferer in industrial disputes. Next, it is an illusion to imagine that, when an industrial dispute breaks out, the community has to deal with it, or compel or coerce the whole body of employers or workers in a particular industry. The community has to deal, not with the whole body of employers or workers, but with the representatives of their organisations. If their representatives come to a conclusion or decide upon a line of policy, those they represent obey them. It is essential, therefore, that those represented should have an impartial account of the merits and demerits of the particular case in dispute. The community can then deal with the position without undue delay, and with true equity.

In the past the Trades Union Congress has shown a measure of support for arbitration in industry, and the Labour Party supports compulsory arbitration in international affairs. That Party cannot continue to allow the question, Is the only kind of war it is prepared to support class war and industrial war? to be put them without supplying an answer. They must agree that the method of strike and lock-out is archaic—a relic of the Stone Age of Industry. The Trades Union and Trades Disputes Act already interferes equally with associations both of employers and workers from carry-

ing on a civil war against the community. It is therefore only right that some method should be devised to deal with the situation in a practical manner before the first skirmish in the industrial war has taken place.

ARBITRATION AS AN AID TO VOLUNTARY AGREEMENT

Nor must it be assumed that, because compulsory investigation is permitted, the mere permission will interfere with the settlement of disputes by voluntary agreement. In Canada, for example, the opposite has proved the rule. In many cases the breathing-space allowed for frayed tempers to be attuned and hot heads to cool has rendered possible and practicable a settlement by voluntary agreement. The prospect of compulsory investigation does not curtail, but contrives conciliation. The pause for investigation would widen the horizon of even the representative gladiators on both sides, and would permit opportunity for more successful influence to be wielded on the combatants by the wider organisations of employers and workers—the Trades Union Congress or Association of Employers, for example. Public opinion would prevent olympic contests between strength and stubbornness.

There may have been occasions when the strike weapon and the lock-out weapon, as a last resort, had their uses. There was a time when the stone axe was a powerful implement, but with new times and under new conditions there must be new methods. The stone age, the bronze age, the iron age have passed. Let us hope that the age of common-sense and informed public opinion has been inaugurated, or, at least, is about to be inaugurated. Already the nations of the world have been educated to ask, not who is the victor, but who is the aggressor. Owing to the increasing force of economic necessity, industrial matters in the next generation must play an all-important part. Therefore it is essential that the public should know the facts, and that the further machinery should be available which is to prevent the outbreak of fruitless and futile industrial warfare by acquainting the public of the facts.

That machinery is provided by an arbitral tribunal.

When the facts are known the public get an opportunity of taking an impartial view of the circumstances, and the public conscience will decide the issue. The press, the pulpit and the public will be the High Court of Judicature, before which the cases of employer and employed will be argued, and in which justice will be dealt out with an even hand, and that justice will be executed by the common sense and conscience of the community.

THE APPLICATION OF SCIENCE TO INDUSTRY

IN these days of economic disturbance, of the world's impoverishment, of difficult social problems—one fact emerges more clearly to my mind than any other. If we are to regain in the financial field what we lost owing to the Great War, it can only be by increasing the whole production of the country. We have to increase the production of real commodities in relation to man-power, we have to adopt better methods of manufacture, to produce at lower cost, and find new means of enriching the world.

It is to the scientist, above all other men, whether he be chemist, engineer, geologist, biologist, or the follower of the multifarious branches of scientific work, that we must look for help. The application of scientific invention and scientific method, of new processes and new products, constitutes the avenue of escape from our present economic dilemma.

INVESTIGATION AND INDUSTRIAL PROGRESS

There has been no one, in my experience, who was more deeply impressed, not merely with the importance of the application of science to industry, or who more fully carried his ideas into successful practice, than my late father—Dr. Ludwig Mond. I cannot better express what should be our attitude in this matter than by citing the emphatic statement which he made as far back as 1889 :

The statement is frequently made that “ necessity is the mother of invention ”. If this has been the case in the past, I think it is no longer so in our days, since science has made us acquainted with the correlation of forces, teaching us what amount of energy we utilise, and how much we waste, in our various methods of attaining certain objects, and indicating to us where and in what direction,

and how far, improvement is possible ; and since the increase in our knowledge of the properties of matter enables us to form an opinion beforehand as to the substances we have available for obtaining a desired result. We can now foresee, in most cases, in what direction progress in technology will move, and, in consequence, the inventor is now frequently in advance of the wants of his time. He may even create new wants—to my mind, a distinct step in the development of human culture. It can then no longer be stated that “necessity is the mother of invention” ; but I think it may truly be said that the steady methodical investigation of natural phenomena is the father of industrial progress.

It was the application of these principles to industry from his earliest days that made him one of the foremost industrial inventors of his generation, as well as one of the most successful manufacturers from a financial point of view. He treated the factory as a laboratory, with the same methods of analysis, temperature control, gauges, from beginning to end of the very difficult ammonia-soda process which he established at Winnington in 1872. It has been by the rigorous prosecution, the continued improvements, unremitting research, growing in volume from year to year, that not a single year has passed in the fifty years of the development of the business of Messrs. Brunner, Mond & Company without some further improvement, some new development, in its technical activity.

MOND AND PASTEUR AS EXAMPLES

What Dr. Mond initiated has become the commonplace of modern industrial science. I have only time to refer very briefly to some of his most striking discoveries : Sulphur-recovery process ; the successful establishment and improvement of the ammonia-soda process ; the process of manufacturing bleaching powder from calcined chloride ; the invention of the first by-products recovery gas producers and the establishment of Mond gas ; the extraordinarily interesting process for refining nickel, worked out by him and Dr. Carl Langer, by means of the discovery of nickel carbonyl, which led to the establishment of the large works of the Mond Nickel Company at Clydach.

It would take me too long to cover, however inadequately,

the history of the way in which the genius of science has illumined the dark places of manufacturing difficulties and pointed to future developments. Let me take a few instances only. We celebrated recently the centenary of one of the world's greatest geniuses—Pasteur. At the beginning of his career, certain brewers, who were in difficulties in the production of beer, placed in his hands some yeast, in order to seek the causes of their trouble. It was from this investigation that Pasteur discovered the whole theory of fermentation, the existence and action of bacteria—a work that led to the foundation of that magnificent edifice of bacteriological research which was crowned by the discovery of the anti-toxin of hydrophobia.

SIEMENS AND FARADAY

Let me take another instance, which is of some local interest—that of Sir William Siemens. Applying his inventive mind to the waste of heat in industrial operations, Siemens became the pioneer of the regenerative principle of heat economy. His regenerative furnace, based as it was on scientific principles, was one of the great steps forward, and was applied by him in many directions, such as steel manufacture and glass production. In connection with his gas producer, he entered into the well-known Siemens process of direct steel production. The plant for the open hearth furnace that bears his name was first erected and operated in Swansea. To produce steel direct from the ore, or by melting together wrought-iron scrap with cast-iron, upon the open hearth, had been in his mind from the first; but it was not until 1867, after two years of experiments in “sample steel works”, erected by himself, that he achieved success. His faith in gaseous fuel led him to anticipate that its use would in time supersede that of solid coal for domestic and industrial purposes, cheap gas being supplied from special works or direct from the pit.

In electricity his work was equally original and fruitful. It was a practical utilisation of the epoch-making work in the theory of electricity which Faraday had carried out at the Royal Institution.

His name is associated with the growth of land and submarine telegraphs, the invention and development of the dynamo, the application of electricity to light and locomotion, and his design of the very original and successful ship, *Faraday*, by which the Trans-Atlantic cable and others were laid. In the Siemens electric furnace, the intensely hot atmosphere of the electric arc, between carbon points, is employed to melt refractory metals. Another of the uses to which he turned electricity was to employ light from arc lamps, as a substitute for sunlight, in order to hasten the growth and fructification of plants.

METALLURGY

The whole metallurgy of iron and steel is a long history of scientific development and invention. Henry Bessemer, Thomas and Gilchrist, Lothian Bell, and many others, have given examples. To pass from the older to the more modern developments, I would mention in this connection the well-known work of Sir Robert Hadfield, F.R.S., on metallurgical alloys, especially manganese steel. Sir Robert Hadfield's works are a model of equipment on scientific lines. There is no instrument of modern laboratory practice which is not found in his well-equipped research department. Operations and results are achieved with scientific precision.

While on the subject of metallurgy, I may mention an illustration of the way in which the new knowledge from other, and apparently unrelated, branches of science helps to promote its progress—to which, by the way, British metallurgists have made contributions of such importance that, in the words of Professor Savour, of Harvard University, “if their contributions were withdrawn, the entire structure of the iron and steel industries would collapse”. The examination of steel by X-rays has proved successful in detecting blow-holes and internal faults, while the microscope and the spectroscope have given valuable help in other directions; and even the cinematograph has been applied to the investigation of problems involved in determining the strength of steel, and is still being used, in more developed forms, in the study of mechanism of the fracture of steel.

ELECTROLYSIS AND CATALYSIS

Whole avenues of new approaches to industrial problems have been opened up by the theory of electrons, on which is based the modern process of electrolysis. To-day the electric current is associating many bodies which were formerly combined only through chemical reactions. The manufacture of chlorine, and the resulting caustic soda, is about the most striking instance of the substitution of electric for chemical action.

Still more revolutionary is the modern theory of catalysis, demonstrating the extraordinary action of small quantities of certain bodies as intermediaries in chemical reaction. It would, I think, be too early to say that we really know the exact function played by catalysts in various processes. But I will give two instances of the application of catalysis to industrial problems. The first is the application of Professor Sabatier's discovery in connection with the process of fat-hardening by hydrogenation, owing to the catalytic action of finely divided metals in turning soft unsaturated fats, like olein, into hard saturated fats, like stearin. The catalyst commonly used in these cases was nickel salt.

The second instance is the synthesis of ammonia from nitrogen and hydrogen, under very great compression of both gases, and at an elevated temperature, in the presence of a catalyst of iron. The reaction takes place in a vessel designed to withstand very high pressures and very high temperatures, the nitrogen and hydrogen combining in the form of ammonia.

It was this latter process which enabled Germany to provide herself—after the blockade—with those enormous quantities of ammonium-nitrate, the chief raw material for explosive used during the late war. It had taken some fifteen years of research and a vast expenditure of money to achieve the practical outcome of this very difficult process. It was only shortly before the outbreak of the war that the installation on a commercial scale was put into operation, this being expanded enormously during the four years of hostilities.

THEORIES BECOME TOOLS OF INDUSTRY

Processes that were the marvels of laboratories have become the handmaid of industrial technologists in relatively few years. Theories which seemed only comprehensible to a super-mathematician have become the tools by which difficulties occurring in factory practice are now being solved. The conversion of burdensome waste products into new wealth, such as, for instance, coal-tar into dyes, and slag into chemical manure, is one of the great triumphs of applied science in industry, and a further illustration of thought saving human effort, and the energy locked up in matter, and, thereby, securing better results with less labour. Every new and profitable application of science makes raw material go further, and is thus of advantage to future generations as well as to those who first utilise the discovery. The use of tar for the production of aniline dyes is one of the most striking conversions of waste into wealth, and not only wealth, but the preservation of human health and life, that can well be imagined. The staining of slides for the microscope by Professor Paul Ehrlich enabled him to hunt down the bacteria and parasites which were the cause of some of our most destructive diseases, and during the Great War the remedies drawn from the same source found a greatly extended sphere of usefulness. Indeed, it is hoped that, in time, the combinations made by the chemist from these coal-tar products will produce a far more effective pharmacopœia than exists in Europe at present.

THE NECESSITY FOR RESEARCH

These are only a few of the numberless instances that could be cited to exemplify the same lesson. They all demonstrate the necessity for scientific research, not merely applied to any one problem, but for its own sake. Far-seeing men of business to-day have no doubt on this point. Companies like the General Electric Company of America, which, I am informed, are giving £200,000 a year to American Universities for the promotion of electrical research, quite apart from the research department of their own works, give

practical proof of their appreciation of the value of science for industry. Other great firms are doing the same. Messrs. Brunner, Mond & Company decided some time ago to set aside £100,000 for such purposes. It is impossible to foresee what the effect of some new discovery in scientific theory will be on industrial practice. Who thought, when Professor Hertz discovered the ether waves, now known as "wireless", that, in a few years, that result of scientific experiment would become a world-embracing industry in everyday use?

THE ECONOMIC ADVANTAGE OF LEARNING

How little is even the economic advantage of learning understood! That remarkable man, Lord Bacon, founder of experimental science, three centuries ago, in his *Advancement of Learning*, used the following memorable words:

And because Founders of Colleges do plant, and Founders of Lectures do water, it followeth well in order to speak of the defect which is in public lectures, namely, in the smallness and meanness of the salary or reward which in most places is assigned unto them; whether they be lectures of arts or of professions. . . . So as, if you will have the sciences flourish, you must observe David's military law, which was, "That those which staid with the carriage should have equal part with those which were in action" (1 Sam. xxx. 22).

We have not yet learned this lesson, but I hope that those responsible for the direction of this Institution will bear it in mind.

There are no shores to the boundless ocean of scientific knowledge. Generations of great minds have investigated its endless mysteries, constantly discovering new islands, but there is room for an endless succession of scientific Colum-buses for generations yet to come. Each new discovery opens a way for more fundamental and still greater knowledge. The progress of humanity is marked in its successive stages by its conquest over nature and its utilisation of nature's boundless wealth. From the Cave Man chipping flints, through the Bronze Age, to the Steel Age, there is a continuous advance.

From the rudimentary use of motor forces—of wind and water—to the latest achievements in steam, gas and electricity,

there are centuries of human thought and effort, but still we are only on the fringe. The future prosperity of the world, the solution of its economic difficulties, the security of its teeming millions, depends far more upon its scientific progress, upon its increased power to produce wealth by the application of scientific thought and method to its industrial problems, than upon any other form of human effort.

INDUSTRIAL RESEARCH

INDUSTRIAL research is one of the highways to prosperity ; it may also be a short cut towards the same goal. Like other short cuts it has its dangers. Ill-advised expenditure on research which does not run on lines parallel to the needs of industry may prove futile and costly, without advancing a step towards the objective. Research divorced from industry, and from what might be called without disparagement the material needs of mankind, may represent a waste of time, money and human energy. Research must have a soul and an enthusiasm above personal gain, but it should also justify itself with concrete results directly applicable to the needs of humanity.

Industrial research may be defined as research undertaken with a view to discoveries which can be directly applied to industry, and which when exploited are commercially profitable and add to the economic assets of the nation. Whilst honouring science in all its branches, it is best to make it abundantly clear that we are dealing with the work of engineers, physicists, biologists and chemists who have contributed not so much to the theoretical development of science as to its application to the needs of industry and humanity.

THE PLACE OF THE ENGINEER

In this direction it is necessary to stress immediately the importance of the inventions of the engineer in the development of industrial production. It is on his work, no less than on the work of the chemist, that our great modern industries are founded. We have recently celebrated the bicentenary of that great mathematical genius, Newton, and it is on applied mathematics, and on applied physics, that our

greatest engineering feats have been accomplished. In industry to-day the works chemist should be something of an engineer, and the functions of the two should be in part interchangeable. How else are we to secure that necessary conversion of the laboratory discovery into a full working plant on a commercial scale, which is the real objective of all industrial research? As often as not the work of the engineer who effects that conversion is more vital and more difficult than the work of the chemist who makes the original discovery.

A MORE PROGRESSIVE ATTITUDE

Research should pay for its keep, and experience proves that in the long run it does that and more. Carefully planned, generously financed and efficiently executed, it is one of the most potent factors in the progress of modern industry. At the present time, there is no subject which is more vital and of more fundamental importance to this country than the problem of how to apply science to industry. It is sometimes a little disheartening to find how far behind many of our industries are in this respect. It is a curious and sad fact that when industry is depressed and trade bad, many of those directing industry have only one idea of economy, and that is to cut down research. This is based on a profound fallacy. Research and better scientific methods of production can do more than any other factors to help industry out of its difficulties.

Happily, since the war, British industrialists on the whole have shown a much more progressive attitude towards research. The predominance of the chemist and the scientist in the Great War, especially in Germany, taught a lesson which we have not been slow to learn. We are beginning to interchange the researcher and the practical man in the works, making the one go into the works, and the other into the laboratory. This makes for closer and swifter co-ordination, a better appreciation on the part of both departments of mutual problems, and a higher efficiency all round. Industrial prosperity must rest upon the technician, and the technician's standby must be the work of the research laboratory.

An instance of what research can achieve in industry is provided by Germany, where, in spite of the war, the financial chaos and political difficulties, faith in scientific research has never flagged. We hear sometimes of the depressed condition of our heavy metal industries. It is good to know that we are moving now in the direction of research in these matters. In our big steel works the laboratory is becoming a more and more important part of the plant, and the metallurgical chemist an increasingly important member of the staff. The resources of science are being directed towards the discovery of a more durable and finer type of steel. Considering that the world wastage from corrosion of steel is estimated at something like £ 500,000,000 a year, the value of research in the direction of a non-corroding steel is obvious. While dealing with metallurgical research, the great and enduring work of Sir Robert Hadfield, an outstanding example of a big industrialist who fully realises the value of research in his own and also in other industries, must be mentioned.

The whole world to-day is open to the men with new ideas and new processes. No country can to-day hold a monopoly of any particular knowledge by any particular process. No country can afford to shut its doors to new ideas and new processes. They mean the foundation of new industries, and the adaptation, improvement and expansion of old ones. The ruthless action of the Roman Emperor who executed the inventor of plastic glass, if repeated by industrialists to-day, with no eye to the future and totally concerned with the obvious needs of the present, to the exclusion of wider vision and outlook, will land our industries well in the rear of the world-fight for trade.

FACTORS IN DISCOVERY

Research to be profitable demands not only funds and equipment but time. Between the laboratory experiment and the commercial plant in full working order, there is often a very wide gulf. The thousands of difficulties to be overcome in bridging that gulf are problems for the technician, the chemist, and the engineer and works manage-

ment. The history of some of our great industries has been a history of a long, discouraging, but eventually triumphant struggle to make the original laboratory discovery applicable on a commercial scale to the needs of industry. Time is a potent factor in such cases. There is a popular but erroneous idea that great discoveries are the results of brilliant but haphazard guess-work, like the finding of a gold nugget in a dry river-bed where one has been hunting for fossils. This idea has arisen, no doubt, from those hoary anecdotes which have gathered around our great men of science, and which satisfy the popular thirst for the wonderful and the romantic. To cover research with a halo of romance is unfortunate, as it may give rise to the idea that great theories and discoveries are the result of some divine chance or mere luck, as opposed to the ordinary routine of sheer hard work. On the contrary, they are usually the well-earned reward of a series of long, careful and often tedious and monotonous experiments, which have called for the highest qualities, not only of skill and accuracy, but of persistence and doggedness on the part of the worker.

THE APPLICATION OF RESEARCH

In the chemical industry research may vary very much in its application. If, for example, a process has been running for many years, it may be taken for granted that, generally speaking, research will not alter any of its main features. Processes then require the closest and most detailed attention to effect any further improvement in them. New processes present quite different problems, and their development proceeds on the following lines: In the first place, the chemical nature of the process has usually been discovered by working on a very small-scale glass apparatus. This has to be translated to an economically working plant, and an intermediate stage is the designing and erection of a semi-technical unit, whose size is so arranged that it will afford all the requisite data for the eventual full-scale plant.

A plant of this intermediate character enables workmen to be trained, and makes it possible for the process to be very closely costed. At the close of a series of experiments such as has been indicated, it can be stated with certainty whether

manufacture will be profitable or not. All this entails most careful staff work, and the whole idea is to avoid any unprofitable expenditure, estimates having first been prepared which give a fair idea of the eventual cost of trying the process.

It is well that both our manufacturers and the public at large should realise along what laborious paths our research workers pick their way. Just as the chemist, the biologist and the engineer must have inexhaustible courage and patience to achieve their discoveries, so the manufacturer must have courage and patience in financing research and in waiting for the garnering of the ripe fruit. Research is a provision for the future as well as an expedient for the present. Any short-sighted, penny-wise, pound-foolish policy is fatal. The financing of research on the right lines must be consistent and continuous. There may be failures, just as there are failures in business. The manufacturer may have to wait a long time for any definite return on his outlay on research, and that return may eventually be inadequate, but exactly the same risks attach to the financial side of industry. There may be long periods when the research staff is apparently producing no tangible results, but probably at such times they are doing most invaluable work in the collating and classifying of material, in the preparing of highly essential statistics, and in the perfecting of technique. All this calls for faith and patience on the part of those financing the research.

BRITAIN AND NEW INDUSTRIES

Britain must create new industries and produce new articles which will create their own demand. New industries can come only from new discoveries and new inventions, which, in turn, are the result of successful research. Our prosperous artificial silk industry, which has been one of the bright spots in the recent depression, is a notable example of what can be achieved. There are already 20,000 to 30,000 people employed in this new industry, and many more, such as chemical and dye workers, are directly dependent upon it for employment. It is simply one of the very many

modern testimonies to the value of research as a business proposition.

The need for new industries and new routes to prosperity is so obvious that the miserly and bigoted attitude to research which still exists in some quarters seems almost incredible. Happily, with every year that passes this attitude is less and less in evidence, and I am thankful to say that it has never been conspicuous in any of the industries with which I myself have been concerned. In that I have always tried to carry on the ideals of my late father, Dr. Ludwig Mond, himself an example of a pioneer who wedded science to industry with no small success.

In our second largest industry, coal-mining, research is particularly vital. The manufacture of aniline dyes, of anti-septics, and of synthetic perfumes and flavours from what was formerly a waste product of coal distillation, is one of the miracles of modern industry. The miracle-makers were not gods or demi-gods, but merely trained chemists.

FUEL TECHNOLOGY

Then there is the question of fuel technology. The future study of all the problems of fuel technology, with a view to the elimination of all avoidable waste and to the highest possible utilisation of our great national coal resources, is of vast importance. There is strong need for an increase in the number of properly trained fuel experts, and the fuel technologist to-day is indispensable in his particular field.

From this view-point the organisation of fuel economy in German iron and steel works is significant. A body known as the Warmstelle was formed in 1919 to act as a co-ordinating centre for this purpose. Since its inauguration Germany is definitely saving 15 per cent of coal used in the industry as compared with 1919, and the curve of economy is still rising. Each department of the central organisation, namely coal and coke, blast furnace, open hearth, Bessemer, rolling mills, and so on, has a technical head, who is an expert in the particular section, whilst a number of subordinate engineers are employed, who are as far as possible engaged most of their time at different works.

The Warmstelle has contented itself with being a co-ordinating centre, and it has stimulated the creation of fuel departments in the various works. Its success in that direction can be gauged from the fact that to-day over 1000 fuel engineers are engaged through Warmstelle influence in the iron and steel industry of Germany. These engineers keep the Warmstelle informed of all the work that is being done. Special problems are submitted to the Warmstelle for their special investigation, and periodic meetings are held at different centres, by means of which fuel engineers can exchange experiences and data.

How thorough has been the method employed is shown by the organisation of fuel economy at the Dortmund Union works. Control methods follow the line almost universally adopted throughout the German iron and steel industry in the direct measurement of fuel supplies and quality at all important positions. To this end 115 recording apparatus have been installed at various points, consisting of 50 meters for measuring gas flow, 25 gas pressure gauges, 20 meters for steam, compressed air and gas, 7 pyrometers, 10 CO₂ recording apparatus, and 3 feed water recording meters. In addition, 350 non-recording instruments are installed to measure gas, steam, electric power and so on, utilised in the works.

Progress in this country has been slower, and to some extent has evolved along different lines from that in Germany. Confronted with a great post-war rise in the cost of fuel, the National Federation of Iron and Steel Manufacturers appointed in 1923 a Fuel Economy Committee. Its objects were : (1) to investigate questions of fuel economy as applied to metallurgical processes ; (2) to collate and distribute information ; (3) to co-operate with similar bodies in other industries.

Close relationship has been established with various bodies directly interested in fuel problems, and the Committee has already done valuable work on various technical problems, such as the properties of coke and on blast furnace reactions, and its future programme has been extended to other pressing problems in connection with fuel economy in iron and steel production.

Reverting to general questions of fuel economy, the operation of boiler plants from the fuel technology point of view is, as I have said elsewhere, too often left to haphazard working, rather than to the detailed investigation of the specialist. Progress, however, is undoubtedly being made. The application of various systems of pulverised fuel is becoming more and more widely spread, and such firms as the International Combustion Company are doing valuable pioneer work in that direction. I trust the future may see us showing greater courage in the scrapping of obsolete plant in favour of new, more efficient, methods, evolved by the brains and research work of our fuel specialists.

Before leaving the question of the application of research to the coal industry, it is well to emphasise the importance of the "oil from coal" problem. There could hardly be a case where the financing of research is more amply justified. The need for constant inquiry and research into the problems of the utilisation of one of our greatest national assets—coal—cannot be too strongly emphasised. I will now survey the position of research in two industries in which I am perhaps even more intimately interested—nickel and heavy chemicals.

INDUSTRY AND RANDOM OBSERVATION

I have already referred to the work of my father, Dr. Ludwig Mond, in the application of science to industry. In no direction was that more definitely displayed than in the founding of the large works of the Mond Nickel Company at Clydach, which, thanks to the soundness of the first foundations and the subsequent following up of the research activities initiated by my father, has enjoyed a long and prosperous history. The discovery of nickel carbonyl, which ultimately led to the founding of the company, is one of the romances of science and of industry. It is well known that the accidental corrosion of a valve turned my father's attention to the study of the action of carbon monoxide upon nickel. This might be taken as an example of how random observations have sometimes led to results of the greatest industrial importance. It is well, however, not to lay too much stress on this aspect of the discovery. Patient, thorough, systematic

hard work in research has produced results of great moment to industry in the past, and will still do so in the future.

It is frequently hastily assumed that my father jumped from the accidental discovery to the idea of the complete process at present worked by the Mond Nickel Company. How far this is from the case will be evident when we examine his own account of the discovery. Speaking at New York in 1895, after detailing the long and patient investigations which led up to the discovery of nickel carbonyl, he said :

For a long time, while we were engaged in investigating the physical and chemical properties of this interesting substance, which was without parallel in the history of chemistry—and while we were endeavouring to obtain other similar compounds with other metals, I had myself no suspicion that this substance, which was until then only obtainable by very careful and elaborate laboratory manipulations, should ever become available for industrial purposes. But the longer we went on preparing it for our investigations, the more easy we found it to prepare it in quantity, after we once knew exactly the best conditions for so doing. After that I came to the conclusion that it ought to be possible to make use of the ease with which nickel is converted into a volatile gas by CO, while practically all other metals, and notably cobalt (which is so difficult to separate from nickel by other methods), were not acted upon by this gas, for separating nickel from cobalt and other metals on a manufacturing scale, and for obtaining it in a very pure state.

Space forbids any reference to the accurate and detailed nature of the investigations to which allusion is made above. Lord Kelvin always said that the advance of science depended upon exact measurement. Here, the above quotation, which, by itself, might have been made by a University Professor, was, in fact, that of a man, who nowadays we should call a captain of industry, at the height of his powers and in the midst of commercial and financial interests.

It is obvious, then, that it was not mere "random haphazarding", as Priestley called it, that led to the foundation of the Mond Nickel Company. Here is a case where, like the discovering of aniline dyes by Perkin, and the discovery of collodion by Nobel, a casual observation of most dramatic character produced immensely important results. Nevertheless, those results would never have been achieved if the men who made the first discovery had not been men of highest

scientific ability, men who had studied exhaustively the branches of science in which they were concerned, and men who were able to make full and enduring use of the chance discovery.

NON-FERROUS METALS

The Mond Nickel Company is an instance of a new and important industry based on a scientific discovery, followed up by years of sheer hard work. Nickel is one of the handmaidens of modern metallurgical practice. A combination with steel chrome and other metals has developed a series of new metals, which will revolutionise engineering practice by providing alloys of great strength, and capable of withstanding very high temperatures, and much less subject to corrosion.

Here reference may appropriately be made to the good work being done by the Institute of Metals, which was founded in 1908 by a few enthusiasts, who felt that the non-ferrous metals particularly were not receiving the attention they deserved. Possibly the most important of the metallurgical problems facing both scientific and industrial metallurgists—and also engineers, particularly chemical engineers—is that of corrosion. One thing is abundantly clear—that it is to the non-ferrous metals that we must look for the materials of first-rate importance. It is significant that the materials of elements to which each class of metallurgists looks are nickel and chromium. As Sir Ernest Rutherford said at the annual dinner of the Institute of Metals: “There has been a greater advance in the knowledge of metals during the past ten years than in any preceding period since the Bronze Age”.

NATIONAL GENIUS IN RESEARCH

Research and the organisation of research is largely a question of national genius. The French are perhaps more inventive and brilliant, and their engineers have given us the motor-car, the aeroplane and the submarine. The Germans are more painstaking, more thorough in organisation, and more relentless in the pursuit of an idea, but in their way also very brilliant. We in Britain can boast as fine a record and as brilliant and reliable a band of workers as any

country in all branches of science. Industrial research particularly is the great English tradition, followed through from Faraday, Stephenson, down to Charles Parsons and his work on the steam turbine. England in this direction, in the textile industry especially, has always stood far ahead of other countries. On the pioneer work of Faraday all modern electrical practice is based ; from Stephenson's original track between Darlington and Stockton railways have run out to every corner of the earth. The English genius is essentially practical, and it is fitting that we should have led the way, and should still lead the way, in the field of engineering and machine construction.

ORGANISATION OF RESEARCH IN BRITAIN

The organisation of research has by no means been neglected in Britain, having been carried out both by the Government and by industries themselves, often in conjunction with the universities. In the cotton trade there is the valuable work of the British Cotton Industry Research Association and the Shirley Institute ; in the woollen trade there is the British Research Association for the Woollen and Worsted Industries, which has devoted much attention to the improvement of manufacturing processes, and obtained results which have already found application in industry ; in other textile trades there are the British Silk Research Association and the Linen Industry Research Association.

The chemical industry, like the textile industry, has had comparatively little help from Government research. Happily, this has been counterbalanced by the activities of the research staffs of individual or allied firms. With the growing tendency to amalgamation, this work is bound to be more effective and more productive. In other industries there are such bodies as the British Cast Iron Research Association, the British Non-Ferrous Metals Research Association, the British Electrical and Allied Industries Research Association, and many others. On the whole, however, there is undoubtedly room for improvement as regards co-operation and the pooling of information and discoveries.

GOVERNMENT AND THE ORGANISATION OF RESEARCH

Coming to the part of the Government in the organisation of research, there are several important bodies dealing with forestry, agriculture and the production of foodstuffs generally. Most important for industry as a whole, however, is the Department of Scientific and Industrial Research. The Committee of the Privy Council for Scientific and Industrial Research was formed in 1915 to enlarge and organise the scientific resources of the country to meet the industrial situation which was expected to arise at the close of the war. The novelty in the work undertaken by this Department is that, for the first time in the history of the nation, an organised attempt is being made to equip scientific research in an adequate manner. The Department has already done very valuable work, and its annual reports are always documents of the utmost significance.

A Parliamentary grant of one million pounds was made to the Department at the outset, and of this about half has already been expended. Subscriptions received from various industries, however, total about half a million, so the account remains practically square.

The Department has assisted the formation of Research Associations in different industries, and about twenty-four of these are now functioning. The work accomplished is far too varied and voluminous to describe in detail, but one may cite the particular instance of research on electric cables, which is estimated to have saved the country £1,100,000. Such a result, in return for such comparatively meagre expenditure, speaks for itself.

Among the bodies connected with the Department is the National Physical Laboratory, which has collaborated with the research departments of different industries, with very beneficial results. The National Physical Laboratory has assisted and is assisting research work in such industries as railways, road transport, shipping, engineering, metallurgy, the electrical industry, textiles, etc., etc. It is, for instance, doing valuable work with regard to the use of X-rays for industrial research.

On the whole, then, we have in this country both the

brains and equipment, and also no small measure of organisation for the pursuit of research. If anything is lacking, it is a greater co-operation, a more complete pooling of results, and an even closer co-ordination between individual industries and established national bodies. If recent developments in this direction are maintained and augmented, we shall no longer be open to the taunt of merely muddling through to nowhere.

RESEARCH AND THE CHEMICAL INDUSTRY

I have left till last the chemical industry. The company with which I am associated has never been backward in financing research. Indeed, in this respect I think we have set an example of generosity and foresight even to other firms in the same industry. The expenditure of a company which wishes to be up-to-date in research is really a charge, not for the immediate present, but for the future. Research is not the royal road, it is ordinary, daily, hard-working road—almost the only road—to final prosperity.

The history of the British chemical industry is a history full of romantic achievements in industrial technology. In the dyestuffs industry we have Perkin, the first discoverer of aniline dyes; in the explosives industry we have Alfred Nobel, a man of wide, unceasing and most amazing inventive genius; while in the heavy chemical industry, strictly speaking, we have a long list of scientific and industrial leaders, like the Tennants, the Muspratts and my own father. The more our industry develops, the more do we appreciate the debt we owe these early pioneers as regards technology. Their lead has been adequately followed up. Constant adaptation and improvement, new processes and the control of new processes, have led to the establishment of a body of experts in the chemical industry who form a real national asset. Backed by sound and often brilliant research work, the industry has progressively increased its contribution not only to other industries—and its ramifications in this respect are manifold—but also to the comfort and well-being of each and every individual. Research has carried the chemical industry so far forward that at the present day it

plays a vital part in adding to the amenities of civilisation, and in the actual feeding and clothing of the peoples of the earth. No one but an inspired prophet or scientist could have forecasted this achievement a hundred years ago.

Who can say how far research on definite lines will take us in the not very distant future? New discoveries, new processes, new methods of procuring and utilising raw materials, new ways of combating diseases, of increasing the fertility of the land, are announced every year. Every year the rate of progress is speeded up. Multitudes of scientific workers, scores of splendidly equipped laboratories, and the finer and finer specialisation in research seem to compress centuries of progress into a single decade.

The chemist to-day is the great adventurer, the true world pioneer. Always he is prospecting and searching for new sources of wealth, new routes to prosperity. Already he not only artificially synthesises natural products, but also creates valuable compounds not found in nature. His rôle is an ever-expanding one. Vast though the natural resources of the world are, they are not inexhaustible, and the population of the earth is increasing by leaps and bounds. To the chemist must fall the task of feeding, clothing and providing for the teeming generations of the future. Large sums are invested yearly in financing schemes for exploring the surface of the earth for new minerals, new riches. How much more vital is it, then, to finance the labours of the research worker, who is the most daring, the most profitable, and the most enterprising adventurer of them all! Only the other day a statement, issued by the Chamber of Commerce of the U.S.A., revealed that 35,000,000 dollars is being spent every year by American manufacturers in research work, with the result that at least 500,000,000 dollars is saved every year in the conduct of industry. The lesson is plain, and we in this country cannot afford to neglect it. Britain has quite as fine technicians and quite as able workers as any of her rivals. No country has a monopoly of brains, of inventive genius, or of mechanical skill. Nobody can say from where the next great idea or scientific discovery will come.

BRITAIN AND INDUSTRIAL RESEARCH

There are no abler chemists or engineers than ours. One need only cite our brilliant post-war recovery of the dyestuffs industry, founded on the labours of an Englishman, but allowed to pass into German hands. Then, again, we have the equally brilliant establishment in this country of the Haber process for the manufacture of synthetic nitrogen. The Germans had practically the monopoly of this method before the war. To-day, British engineers and chemists at Billingham have been able, not only to equal the Germans, but actually to surpass them. We have already made a success of a very great new venture in British industry. This success has been due not so much to the intrinsic merit of the process itself as to the fine work of certain British engineers in perfecting plant and mastering technique. Beyond this, we have mastered the technique of high pressure, which, previous to our success, frightened so many. That there are numerous new processes dependent on high pressure is common knowledge. Incidentally, it is well to remember that the Haber process was the result of research work carried out under the ægis of the dyestuffs industry in Germany, and that, in our own new dyestuffs industry, we have the finest of all training-grounds for our young organic chemists.

RESEARCH AND THE FUTURE

Every day sees the more efficient application of science to industry, and every day some new romance of research comes to light. New problems also constantly arise ; for instance, the fields of synthetic alcohols and of catalytic process are still only partially explored.

We are entering on an economic and, at the same time, coldly scientific war, which will lead to the extinction of the less strong and efficient industries, and perhaps even nations. The most effective methods of promoting scientific research and the application of scientific discoveries are the only things that can carry this country through. Too long we have been inclined to pride ourselves on our habit of "muddling through". That policy, or lack of policy, is

fatal in these days of highly efficient research and highly specialised industries. Muddling through is futile; we must cut our way through by a definite predetermined path to the final fully utilised triumph.

The welfare of the whole nation depends on this complete application of science to industry. The welfare, not only of the nation, but of the human race, depends on the efficiency of its chemists and technicians, its scientists in every field. The amazing, rapid progress made in recent years must not induce any attitude of complacency. We are not living on the apex of time or the apex of civilisation. Rather are we at the foot of great ascent, which will take us to higher forms of civilisation than any that even we moderns can predict or define. That ascent will mean steady effort, effort ever sustained and ever augmented. Even then the final triumph is by no means certain. The welter of the Great War taught us that there are dangers inherent in our highly advanced and highly complex civilisation, and taught us, moreover, that a relapse into chaos is by no means an impossibility. There is only one possible policy. Rightly or wrongly, we must pin our faith to the scientists of this and of future generations. On their work and their discoveries the race must stand or fall. Research and more and more research must clear the only feasible path for the forward progress of mankind.

FUEL TECHNOLOGY

THIS is the first meeting of the Institution of Fuel Technology, and I feel it a very great pleasure that I have been asked to preside and deliver an address to you. It is indeed a very great pleasure to address you this morning as the first president of the Institution at the first session of the first annual meeting of the Institution. I would like to say that I hope it will be the precursor of a great many meetings for a great many years of the Institution, the work of which is of such vital importance to the technical and economic life of the country. The varied and intricate problems of fuel technology have too long been without an organisation that could co-ordinate the various lines of endeavour, experience and research. I think I may safely say that in technical institutions and learned societies the immediate tendency is—and it is a tendency which will continue to grow—to form strong and powerful organisations equipped completely to deal with the ever-increasing complexity of technical problems. This is certainly the tendency in modern industrial organisation, as is exemplified by the increasing amalgamations in the coal industry. In the heavy chemical industry the process of amalgamation has reached its highest point in industrial organisation by the formal registration on Saturday last of the company with the biggest initial capital in this country—Imperial Chemical Industries, Limited—a company of which I have the honour to be chairman, and to the creation of which I have devoted a great deal of time, energy and thought.

THE COAL COMMISSION AND FUEL TECHNOLOGY

You will remember in the report of the Coal Commission it was recommended that : “ A closer connection of mining

with the allied industries should be promoted. Highly technical questions are involved affecting a number of industries and not electricity alone. The development of electrical supply under the new proposals of the Government should be closely co-ordinated with the generation of electricity at the mines." That is the language of the report. It is not merely my view. "The heat, power and light requirements of the country should be under the constant and comprehensive survey of a body formed for the purpose. We propose for consideration the establishment of a National Fuel and Power Committee with advisory powers, composed of representatives nominated by the Government from among the official and other bodies concerned."

This recommendation was based largely upon a memorandum prepared by Dr. Lander, in which it was stated that :

No comprehensive survey has ever been made of the heat, light and power requirements of various industries or of the country as a whole, and how they can be most economically met by the various processes at present commercially feasible : still less has the broad question been considered from the point of view of possible development in the future.

The Commission therefore considered "that such a survey is imperatively required in the national interest", but it went further and expressed the opinion that it was not a matter upon which a single investigation undertaken at a particular time would be likely to furnish the most fruitful results. Their view was : "The problems to be dealt with are so diverse, and the sciences and practices that are concerned are in a state of such active development, that the survey which is needed should rather be a continuous process undertaken by a body of a permanent character".

THE FUEL AND POWER COMMITTEE

In accordance with this recommendation, the President of the Board of Trade, on the 20th August last, appointed a Fuel and Power Committee : "To consider and advise upon questions connected with the economic use of fuels and their conversion into various forms of energy, having regard to

national and industrial requirements, and in the light of technical developments". This committee, of which I accepted the chairmanship, at the request of the President of the Board of Trade, has already held one meeting, and has proceeded to survey the work which has already been done by various committees and organisations, official and unofficial.

PREVIOUS INQUIRIES

Fortunately, the committee has before it the results of a large number of inquiries which have been made in recent years into the use of fuel, and the production of power. Too much time would be taken up to make even a cursory list of the committees and commissions which have already deliberated ; but attention must be paid to the work of some of them. As early as 1901-1905 there was a Royal Commission on Coal Supplies, which, though it made no specific recommendations, referred to waste in steam-engine and boiler works, particularly by small users and by collieries, and to the use of pulverised fuel, the use of blast furnace and coke oven waste gases and producer gas plants. The Coal Conservation Committee sat from 1916 to 1918 to consider improved methods in the mining of coal, and improved methods in the use of coal for the production of power, light and heat, and of the recovery of by-products. The Power Generation and Transmission Sub-Committee, which dealt with electric power supply, recommended the division of the country into sixteen supply districts, the provision of large central generating stations, and the standardisation of frequency and voltage. During the sittings of this committee, the Fuel Research Board was set up, and announced that it was proposing "to make a survey of coal seams of the country, and to make a list of methods of low-temperature carbonisation". The committee expressed the opinion that there was a strong need for an increase in the number of properly trained fuel experts.

Though these were the only two bodies appointed with sufficiently wide terms of reference to cover all matters under the omnibus title of both fuel and power, there have been a large number of inquiries held upon various parts of this

vast problem. The Board of Trade Electrical Trades Committee of 1918 recommended the Government to introduce new legislation governing the supply and distribution of electric energy with the object of removing the handicaps under which the industry was working, while the Electric Power Committee of the same year recommended the appointment of electricity commissioners to divide the United Kingdom into districts technically suitable for the economical generation and distribution of electricity. In 1921 the Water Power Research Committee dealt with the development of power from inland water resources and tidal power.

THE FUEL RESEARCH BOARD

There are in existence, also, a considerable number of bodies, official and otherwise, devoting attention to various aspects of the problem. First and foremost should, of course, be mentioned the Fuel Research Board, which, among other duties, administers the Fuel Research Station at Greenwich, which, curiously enough, I had the duty of erecting when I was First Commissioner of Works. According to the report of the Board for 1925, it has a most ambitious programme of work sketched out before it, including further organisation and development of the physical and economic survey of the national coal resources, to discover the best utilisation of the various seams, particularly their treatment by carbonisation or otherwise. That, of course, I think is a very, very important piece of work which has never yet been done. In fact, coal has always been looked upon as coke. Any one who has had any technical experience knows perfectly well that there is no such thing as coke. There are various different forms of carbon which behave extraordinarily differently under the same conditions and under the same processes. I have struggled for a very considerable part of my life with the problem of gas and its products, and I know only too well how absolutely little you can rely on the behaviour of a gas product in by-product recovery processes. For instance, coal from a certain colliery will work very well, and coal from an adjoining colliery supposed to be similar will behave in the most extraordinary manner. That is why

it is so very important, I think, that a really serious study of the physical and chemical conditions of our various seams of coal in various districts should really be scientifically made. Then there is the collection of data for the preparation of thermal balance sheets for various methods of coal carbonisation and the gasification of coke ; the collection of data for the preparation of economic balance sheets for carbonisation, gasification and furnace operations ; experimental work on carbonisation up to 650° C. ; and the study of the smokeless fuels, oils and gases produced.

THE DANGER OF DUPLICATION

Then, among the most important unofficial bodies investigating these problems are the Fuel Economy Committee of the Federation of British Industries, the Fuel Economy Committee of the National Federation of Iron and Steel Manufacturers, the Institution of Gas Engineers, the Society of Chemical Industry, the National Gas Council, and many others ; and last, but not least, the two Institutions which are gathered here to-day, and before whom papers dealing with such problems ranging from " Modern Practice in Gas Manufacture " through the " Carbonisation of Bituminous Coal at Low Temperature ", to " Smoke and Public Health ", will be read by well-known experts, and discussed with an informed criticism which will emphasise and stress the importance of the whole subject and its many problems.

I have detained you for a few moments over what I may call, to some extent, the historical side of this question in order to point out both the size of the problem and the number of different workmen in the field. What has been wanted, and I hope what you in time will be able to establish, is the co-ordination of all these various disconnected and dislocated efforts to prevent overlapping and the duplication of an enormous lot of work. It is rather characteristic of the present time, not that we are short of researchers, but that there is an enormous amount in all directions of overlapping—research going on without one person, or even one institution, knowing what another is doing. The result is that progress is very often very much delayed, and a great deal

of work is duplicated quite unnecessarily. If it was co-ordinated the same body of men could be doing a much larger amount of work and a much wider scope of work, and saving each other a great deal of time.

THE MAIN PROBLEMS OF FUEL TECHNOLOGY

Now, I would divide the main problems of fuel technology as they exist to-day under three main heads : (1) Fuel economy to be obtained from existing plants now in actual operation ; (2) Fuel economy resulting from the development of the use of electricity ; (3) Future development of fuels—such as new uses and treatments of coal, oil and the elements. These seem to be the three directions in which the Fuel and Power Committee can most usefully conduct their inquiries and render their advice to the Government. These are also the directions in which this Institution can most fruitfully assist the Committee, the various industries and interests which they represent, and also the community at large.

Immediately in all these three lines, the problem to be attacked must be divided into the industrial and domestic aspects, for in a great industrial country like our own the vast range of fuel technology in domestic uses is too frequently under-estimated. As a matter of fact, it is not merely under-estimated. It is entirely ignored outside the brilliant and clever advertisements of those who wish to sell some form of fuel to the householder. However good technologists these may be at home, they are not naturally providing technical expert knowledge to those to whom they are trying to sell. There is really no study being seriously made as to the best use of fuel for domestic purposes, or even how the great waste of fuel which goes on in its use for domestic purposes could or could not be practically overcome. You occasionally hear suggestions thrown out as to whether you could not have a central heating installation for a whole square in London. I cannot say that I have devoted any time to the problem myself, or if I had that my opinion on it would be very valuable ; but there are problems of that sort which it would be well worth while for those who are fuel technologists to examine, and to say once and for all whether or

not they are within the scope of economic possibility, or whether they are mere moonshine. The question of heating of buildings, the proper appliances to use for heating buildings, and the methods that exist, are all questions which really have received very little study either technically or economically in this country.

DOMESTIC HEATING IN CANADA

When I was in Canada recently, where I am interested in the sale of furnaces, among my other activities, I made some little study of the kind of furnaces they were using for the purpose of heating their boilers for steam-heating. In Canada the furnace is the most important object in the house, because if you do not keep it alight you freeze to death, and the man who has got to keep it alight is the master of the house, because there is nobody else to do it. Naturally, he is interested in not having to get up two or three times in the middle of the night to see whether the furnace is still burning. Therefore, I suppose they have devoted more time to this kind of problem than we have. I was very much struck with the kind of automatic regulated furnaces in use there with the proper thermostat arrangements automatically controlled for draught purposes, operating so that you had the required draught if you burned the requisite, not the maximum or minimum, amount of fuel, whether it was anthracite or coal. Contrast that with what happens in most houses here. A somewhat untrained domestic shovels quite irrelevantly coke or anthracite—it does not matter which—in equal quantities into some kind of appliance, and you rely on some one in the category of odd man as to whether you freeze or boil to death. I merely mention that as a detail, of course ; but it shows there are quite a number of problems of an automatic character in connection with electric heating, gas heating, anthracite or oil heating, which are really worth the attention of fuel technologists in this country.

FUEL ECONOMY FROM EXISTING PLANTS

Now I come to what I call the industrial side, which is in itself very important—most important. Of course first place must be given to the consideration of existing plants which are operating to-day. Even in an assembly like this, it is necessary to lay emphasis on that. It is obvious that many millions of capital are invested in them, and the process of transition from the old plant operating to-day to the new plant must inevitably be a slow one. The development will be circumscribed by the exigencies of finance—not merely by finance, but also naturally in operating works all changes are difficult from the engineering point of view, and you have to go slowly if you cannot stop working. But are all boiler plants which are working to-day worked at anything like—not the maximum, but even good practice? I doubt very much whether any fuel engineer who knows his business would not agree with me that you would probably find a very large percentage of boiler installations in the country to-day which are still worked in an entirely unscientific manner.

I am often surprised myself, coming from and having been trained in works where the question of steam generation, efficiency of coal, efficiency of evaporation, tests of gases on leaving the boilers, and all those problems, are automatic, and are treated as part of the daily routine of the factory, to go to a place where the people cannot tell me what it costs them to raise a pound of steam, and have not the faintest information of what water they are evaporating, and really do not know what efficiency they are getting out of their fuel. They do not know even what the calories of their coal are, and they leave it to some person to buy coal the cost of which they may think cheaper, but which on calorific values is extremely expensive. Some day perhaps there will arrive in this country the day when we shall get a little nearer to the German practice, and not buy some or other brand of coal, but buy heat units, which after all are what we want to use. I may say in Brunner, Mond & Co. for many years no coal has ever been bought until it has been tested carefully by the scientific staff for its heating value. People

have come to us and said : " Why do not you buy our coal ? It is very cheap." We say : " It is not very cheap, it is very dear". They say : " It is cheaper by 2s. a ton than what you buy". We say : " Yes, it may be per ton of coal, but it is a great deal dearer on the heat values, if you take the trouble to test it".

UNIVERSALITY OF PROBLEMS

While steam boilers and engines have for a long time been in operation, those who know the problems of modern industry will recognise that there is still a very large and important field of improvement in which fuel technologists will find room for their activities. It must not be forgotten that there are thousands of works in this country in which the operation of these plants has been left to haphazard working, rather than to the careful and detailed investigation of the specialists. I will say one word about that a little later on. But this is only one side of the problem. Fuel technology concerns every factory, and frequently every process in the factory. Fuel technology applies to the waste of fuels in calciners, decomposers, annealing furnaces, metallurgical and chemical processes, many of which are of quite as great importance as power production. I am mentioning that because I see it is commonly treated as if the whole function of the fuel technologist was to deal with the question of raising power cheaply. In a great many factories that is not the main problem.

PURPOSES OTHER THAN POWER PRODUCTION

Take the steel industry. The amount of fuel used for power is a bagatelle compared with the amount of fuel used in the blast furnaces. It is vital, and of much greater importance, to anybody in the steel industry to get a better efficiency in the fuel use of their steel process than in the actual source of power. But that applies to a vast number of other industries, practically to the whole metallurgical range, to rolling mills, to annealing mills, to tinsplate works, and also it applies in chemical works. There are many

directions in our own processes in our works where the use of heat, and the proper application of it, not for steam at all, but for calcining or making caustic soda, or matters of that kind, is of vital importance. There the fuel technologist, if I may call him so, is of the very greatest importance. I stress that point because this question becomes so often a mere kind of competition between people who believe in steam plant and people who believe in gas, or people who believe in electricity for what I may call power purposes. But it is a very wide and extraordinarily important field for the use of fuel in industry, quite apart from power production purposes, which lies open to the fuel technologist, where enormous advances can be made.

I refer in this instance to a very important field of users, such as the railway companies. I do not know any engineer who looks upon a locomotive as the most economical user of coal. Everybody knows a certain amount about the difficulties which naturally arise from the use of fuel in locomotives. But even there, curiously enough, after all this time there is some very interesting work being done in other countries, and I am glad to say in this country too. There may be, and probably will be, very great improvements made in that very important question of the amount of fuel you have to burn in a locomotive to haul a certain tonnage a certain distance in a certain space of time.

PULVERISED FUEL

Of course, as regards the existing boiler plant, there is no doubt that great economies can be effected by the better purification of boiler water, the more efficient use of superheaters, the use of mechanical stokers, chain grates, ash conveyors, and similar mechanical devices. Then there are the problems of direct firing, and the use of high pressure and exhaust steam, in which a whole number of varieties of improvements can be made. The application of various systems of pulverised fuel is now becoming more and more widely spread, and the advantages of steam raising in this way are becoming increasingly realised in this country. We are making progress in this country, and I opened only the

other day, at the request of the Mayor of St. Pancras, a pulverised fuel station and new electrical works. But it is only when new units are being constructed that entirely new plants like these are likely to be put in, because, as I have said, they require a large amount of capital, and you may often not be able to replace a large amount of existing capital with new capital unless you are getting a big margin of profit. But I hope that we shall enable ourselves to face the scrapping of obsolete plant with somewhat more determination and courage than has taken place in the past.

THE PLACE OF RESEARCH

Research can only be treated as part of capital. The expenditure of a company which desires to be up-to-date on research is really a charge not for the immediate present but for the future, instead of always falling on the profits, and perhaps the attenuated profits, of a certain year. A board of directors would much more readily undertake research work if that were not the position. I have been present at board meetings where everybody was full of enthusiasm and zeal for research and for engaging research people, and establishing research laboratories, but they were told as this had to come out of profits, it was quite impossible.

I throw out these ideas as I have come across that view so often in practice, and I know there are many things on which new lines of thought are required, and new ideas must be introduced. We are to-day immensely hampered by formulæ and illusions, and nowhere more so than in the regions of finance. People are continually talking not of facts but of figures or fictions, just in the same way as people think a share certificate is a piece of property, whereas it is only a piece of paper. The factory is the property; the share certificate is nothing. Lots of people imagine that if their certificates lose in value, the country is very poor, whereas as long as the factory remains, the country is just where it was. It is this confusion which has taken place between symbols and realities and the purpose for which things are done. In reality, the accountant is there to protect you in the management of the business, but not to dictate to you how

to manage your business. In these directions a clearer mind is required, and the putting of the thing forward on modern lines. That is really apart from my subject to-day, but it all comes into the future of what I may call fuel technology in its wider sense.

FUEL ECONOMY FROM ELECTRICITY

I have already referred to the question of powdered coal and the value of its use. I would like to say a few words on fuel economy resulting from the use of electricity. Of course, where you can get the best results probably in the use of electricity, the requirement is for the use of power of relatively small units, of units which are spread units. There is where it would be very beneficial in other countries, that is to say, in those many places where you have not got power units which justify in themselves the erection of independent and large power plant. How far the central station work will ever replace large power generating plants in individual factories is a question I should hesitate to express an opinion on. There are two points there. Many people still have some feeling of dislike in hanging the whole power of their factory on to a station which is in charge of somebody else. That idea, of course, prevails pretty largely. Secondly, the difference in the cost of generating electricity yourself or buying it from a large central supply station may or may not amount to a very large difference, and may not really be worth while.

It is a matter which is conditioned entirely by local conditions. With our works at Billingham on the North-East Coast dealing with ammonia, the bulk of our central supply comes from the supply stations, and we have had no reason to complain about it. We get it at a very good price. At other places you are now getting a greater use of electricity from large generating stations. Naturally, a large generating station ought to and can produce electricity cheaper than a small station. We have yet to see here the creation of generating stations which in the United States people consider of any size at all. Our largest stations in this country, after all, in units are trifling compared with what they are

putting up in New York now. I believe they are putting in a turbine of the Brown-Boveri type of 100,000 kilowatts for the New York station. That is "some" unit, as they say over there. I should have thought that 100,000 kilowatts was big enough, but I am told in fact it is 200,000. I wonder how many stations here would take the 200,000 kilowatt turbine?

Then the question of the use of electricity for heating is one which presents a number of quite interesting problems for the future. Though in many ways it is not the most economical method of turning coal into heat, there are other advantages which make it advisable at times to employ it. We are now using electric furnaces on a growing scale very largely where you require a product of a certain degree of purity, or a certain standard of variation. I think the electric furnace is likely to grow in use.

Again, take electricity for domestic purposes. I was very much struck on my recent visit to Canada at the enormous use of the electric cooker, and of electricity in the house. When I went and visited the new Canadian power station—and a beautiful installation it is—which has cost, I forget how many million dollars, which generates 550,000 kilowatts from nine turbines, they told me this very interesting fact. They said that on Monday, which was washing day in Toronto, the difference in the use of electric irons for washing in Toronto alone made a difference of 10,000 horse-power on their load on that day. That is rather staggering, because after all Toronto has only a population of about 660,000 people. I went into the matter a little there. Of course it was not a question of cost, it was a question of convenience and cleanliness. I think you will see a growth in the use of electricity for heating in this country, and for use in domestic purposes, when you reduce the price to anything which enables the ordinary person to use it.

COMPARATIVE COST

Still, it must not be forgotten the amount of energy at present recoverable as power from fuel is relatively still only a very small amount, something like a quarter of the amount

theoretically possible ; and that the most practical agency which we still possess for the production of power is steam. We all know there is a certain amount of controversy as to what is the cheapest way of producing electricity. Curiously enough, water-power, which some people imagine is extraordinarily cheap, proves on examination in many cases to be illusory. I was interested to be told in Canada that you could produce electricity as cheaply at Buffalo as you could at Niagara by water-power, taking into consideration the depreciation and interest on the enormous amount of capital involved. Therefore, those people who say that Great Britain is out of the hunt altogether, because our water-power resources are naturally limited, as we have not got great mountain ranges or great rivers, and, therefore, have got limited water-power, can take comfort to themselves in the fact that properly equipped modern electric installations exist. I have known firms who have been prepared to put up steam installations who are going in for electricity, and working with water-power stations also.

A problem which we have had to consider ourselves not very long ago and study was the question of what was the cheapest electricity in various water stations in Europe, and it was found that the north-eastern coast of Britain, taking it all round, was a cheaper place to manufacture than Sweden or Norway.

THE "NO" COMPLEX

I hope, now that we are getting to the end of this long and tedious discussion of the Electricity Bill, something may happen. I have taken no part in that controversy, except for one short statement that I made on it, for I felt this. I do not know for how many years we have been discussing Electricity Bills in this country. Whenever anybody has produced a Bill everybody has said : "We all want something done, but not this". Endless committees have sat and made recommendations, and everybody has said : "This is splendid of you, but this is not exactly what we like". I came deliberately to the conclusion : "For Heaven's sake let us make a start at something". When we have made a start at something, I have no

doubt we shall find all kinds of things will want changing again ; but, after all, that is the common nature of humanity. If we always wait on big problems for somebody to produce a thing which, like Minerva, will spring from Zeus's head, absolutely perfect, we shall wait for ever and achieve nothing. There is not a single technical process ever heard of which began by being perfect, or began by being even workable. We have all had to begin with things which were even unworkable, and have lost money on them, and even sweated blood for years to make them good.

Those people who are always sitting round with what I call the " No " complex, whose first instinct is always to say " No " to everything, and to find difficulties and objections to every course you want to pursue, are absolutely people who achieve nothing ; but, worse than that, they are the people who hold back the whole progress of countries and of industries. You want more people with the " Yes " complex. The only advantage I discovered that the Americans had over us was this. If you have a new idea and propose it to an American, he is pleased. He may adopt it, even if it is wrong, but, at any rate, he will welcome something which is new, and he is ready to try it. Whereas here, with nine people out of ten, if you produce a new idea, the mere fact that it is new makes them say " No " before they really understand what you have got to say at all. I say deliberately there is no room in the world for the " No " people. There is no room for them, and they have got to get out of the way. If they do not, it will be a serious thing for this country.

GAS IN FUEL ECONOMY

The third point which I want to say a few words about, if I am not keeping you too long, is that of the gasification of coal, distillation, and also a few words on the question of oil. Gas, apart from domestic heating and illumination, is much more commonly used in industry than is generally realised. It has been stated that no less than 3000 distinct trades depend in some part on gas. Any centralised scheme of power production could easily be associated with a very large additional supply of gas, and that at a low rate.

One such scheme for the production of low grade gas for industrial purposes has been in existence in the South Staffordshire Mond Gas Company for some twenty years. I was one of the unfortunate people who were responsible for this enterprise. Well, everything that people told us we could not do we have done for twenty years without any difficulty. We were told day after day in the committee rooms of the House of Commons by the most eminent experts that we could not distribute gas under pressure—the leakage would be so great that none would ever reach the consumer; your pipes would all corrode; you could not keep your valves clean; you could not get a steady distribution or a steady production. So far as, at any rate, the technical side is concerned, all those difficulties have never arisen. So far as the financial side is concerned, everybody thought we were wanting to make too much money, and the committee spent an endless time in cutting down our rates, which we have never been able to charge, and limiting our dividends, which we have never made. That is the way some people always try to encourage a new enterprise. But we have got no less than 45 miles of pipe line in use there, and if we have not given as good a return to our shareholders as we had hoped, we have certainly given a great benefit to the industries in that area. Although the example in itself may not be enough for a final judgement (and I do not think it is), I am convinced from the improvements which we have made in the development of fuel technique that there are possibilities of large improvements on the practice which has been adopted up to now. But there is a point which I think ought not to go out of the minds of the fuel technologists, and that is the question of the possibility of distributing from central stations large quantities of cheap power and heating gas, more especially heating. There are so many possible combinations to-day of various and different kinds of processes in this field, that I have no doubt the ingenious minds of the members of the Fuel Technology Institution will be able to discover a very large number of them.

DISTILLATION OF COAL

Then there is the subject of the distillation of coal. That is an old question in a way, and yet a new one. It has been known for a long time now that every day there is destroyed, by the direct combustion of fuel, by-products which, could they be recovered economically, would not only find valuable uses, but by economising fuel would eventually cause more to be burnt by a general and really economic increase of trade. It is also well known that our very climate would be changed if we could find some method of domestic heating which does not produce smoke. I am very glad to hear that Mr. McEwen this afternoon is going to give us a detailed analytical statement of the whole problem. I would like to say, merely generally, that if the problem is not yet solved, the solution of it appears every day to come more into sight. Of course your gas works are really coal distillation plants. What we have really been trying to do since in varying degrees are modifications of coal distillations, and variations in what one may call the end product. Your by-product coke oven is coal distillation in a certain sense, which governs a certain amount of by-products and does get a certain result in coke. The recovery by-product gas-producing plant in a certain degree is a distillation process.

Then you have the whole range of what are now known as low-temperature distillation processes. As I say, it is really to a large extent a question of degree as to whether it pays you to stop recovering your by-product, or gas, or end product, and what you can do with your end product when you have got it. There you link on to pulverised fuel. There is a very interesting installation which I have read about in America in Milwaukee, where they have combined low-temperature carbonisation and distribution of gas recovery with low-temperature distillation, and the use of coke resulting from the low-temperature distillation in the boilers for the electric station.

OIL FROM COAL

As I say, instead of people looking at all these things as being antagonistic, the manufacturer ought to complement them. I believe your gas works and electricity stations ought to be side by side. They ought to be practically united. They ought to get together, as they are both producing power and heat, and both consuming fuel. They ought to get together to use it for the best purposes and sell it cheap and pay the best dividends. There is a very interesting development of which a good deal has appeared in the Press. There is a high-temperature process of which that of Bergius is one of the leading examples for the synthesis of oil from coal. I am taking a little interest in this aspect, as in other aspects of the fuel question. It is a question of very grave national importance. You can produce cheaply from coal, fuel-oil of all characters, and modify the resultant product whichever process may be employed.

THE NATIONAL IMPLICATIONS

On the claims made for some of these modern processes, you might imagine that you could render Great Britain entirely independent of the importation of oil from outside sources. This seems a very large proposition, but it is by no means outside practical politics—by no means at all. The implications of this would require some consideration. It would mean that this country, instead of being dependent in war either on stores accumulated in this country or on ships coming across the seas with one of our vital national war materials, and one which is growing more vital because, as the mechanicalisation of the forces proceeds year by year—the use of petrol and oil both for this country, the air force, the navy and the army, is constantly increasing—it would mean that it would be absolutely self-supporting.

In fact, if that could be achieved it ought to be for the sake of national defence, even at an uneconomic cost. If, on the other hand, you could get substitutes made from our fuel and our coal, for the importation of oil, you change the economic balance-sheet of this country in a remarkable way.

You would change your exchange position entirely. Instead of being a tributary and paying vast sums to other countries for your material, you would be producing in your own country with your own labour and your own raw material. This is going to be a very big question, not perhaps of the immediate future, but of the next years. I know in an Institution like this it is not necessary for me to say that people should not attach too much credence to the extraordinary statements we read of processes found by very eminent people in the papers they have read. Being technicians, we are convinced that they have never expressed themselves in their papers in the way in which they are reported.

I have seen some statements in the English Press of some observations which have been made at the Fuel Congress in America which really were of a most remarkable and imaginative character, and did not accord accurately with the facts of the position with which I am intimately acquainted. Therefore, although we see these things and sometimes talk about them, still there are always steps between the vision of the technical future and the commercial and immediate exploitation of technical processes, steps which it takes time to overcome, and which, of course, can only be settled by the daily work of the technical man.

WORLD PRODUCTION OF OIL

With regard to the world production of oil, I have got some figures here which may interest you. When you realise the figures of production jumped from 557 million barrels in 1922 to 735 million barrels in 1925, you realise how rapidly the use of oil fuel is growing. In the United States alone, in 1925, there were 15 million registered automobiles, and when I was over there they still seemed to be selling them. I think if anybody got out the figures of the increase of motor-cars in Great Britain—motor-cars because they are not automobiles—in the last few years, I am not certain that you might not get even more striking figures than the figures for America. Therefore, quite apart from the problem of oil, which I have been indicating as important from the national point of view and from the economic aspect,

namely, the question of synthetic oil fuel, you get the fact of the enormous increase of the world's demand for these fuels, which even exceed the development of the fields, largely productive as they may appear to be at the moment.

I am not one of those people who believe in the early exhaustion of the natural resources. All my life I have heard people speaking of natural resources being exhausted every ten years. The iron or the coal fields or the gold fields have all been exhausted several times during my life, but they still seem somehow to carry on. You may get to a point where the growth becomes so rapid that the natural product increase cannot maintain its ratio. But the potential synthetic production is not bound by the same limits. In fact, you get the interesting situation in the ammonia position to-day, where, if it had not been for synthetic ammonia production, I doubt very much whether it would have been physically possible for the nitrogen industry to have supplied all the nitrogen which was required for modern fertilisation.

THE PLACE OF THE FUEL TECHNOLOGIST

Well, I have given you a few outlines of that question. It is going to be very interesting in the forthcoming developments. I have pointed out these things because lots of people will ask what is fuel technology, and what is a fuel technologist, and what are you going to do, and why should you have fuel technologists? Are not you just inventing a new fancy title to enable some amiable gentleman to extract a special fee from it? I have covered very roughly a number of important and very vital subjects. Are they not subjects which require special application and special study by specially trained people? I think they do. But only technologists, the chemist or the engineer, or better, both, who devote themselves specially to the study of the problems of the utilisation of all kinds of fuel, be it coal, be it gas, be it oil, or be it electricity, will be able to handle these problems efficiently. The technologist is a man who, if called on, ought to be able to say on a given proposition what is the best form of fuel to use, what the financial and economic results will be, and what the technical effect will be.

Those are really, to some extent, much more specialised studies than people realise, and as I have pointed out, the field has got wider and wider and bigger and bigger. It is extending before our eyes in dozens of directions. From the days when you just shovelled some slack on to the boiler floor and got a man to shovel it into the fire, hoping you would have enough steam for the old engine to turn round, to the modern high-pressure plant, highly complicated in its engineering, in its combustion, and in its oil arrangements, is an enormous step. Therefore, the type of man, the trained man, required to handle this proposition is entirely different. That is not what is sufficiently recognised. It is still thought that anybody is good enough to look after steam-boiler plant, or power plant, or electric plant; but they are not. It is really a special problem which wants really careful and special investigation. Therefore, I hope that the fuel technologist and fuel technology will be recognised in the engineering and chemical profession as really a new branch requiring specialised knowledge, and that fuel technologists will lay out for themselves a course of work and study which they will require fuel members of the Institution to comply with or to know about, so that they do become specialised in this kind of work. It is, as I have pointed out, of enormous scope. It is also of enormous vital importance from the point of view of national economy

THE ECONOMIC BATTLEFIELD

The future battlefield of the world will be largely an economic one. I do not think that we shall see for very many years to come people committing the crime and folly of another war, but the economic battlefield is as important as any other, and the best man in it will win, whatever country he comes from. There is no escape from the logical results of what we might call the economic superiority. Now, we have in this country all the material that is possibly required. I am not in the least impressed with the technical superiority of any other people in the world. I do not find abler chemists or engineers in any other country than I find in this. We have to-day the people, we have the training, we are able to

tackle any new problem that arises, and I think you will find that we have in this country also a quality of worker who is extraordinarily adaptable, highly skilled, and well trained.

I was astonished when I went to visit our synthetic nitrogen works—which are a revelation in industrial practice such as ten or fifteen years ago no one would have thought it possible to erect or operate, so complicated and delicate are its processes from beginning to end—to find what highly scientific methods and instruments were employed. We spent £50,000 on the highly scientific instruments for controlling the plant, and we had practically to design them all ourselves. Those works have called forth a very high order of mechanics and fitters in order to deal with the running and repair of that plant, and I doubt if it would be easy to find anywhere else in the world such a body of men as I saw there working in the machine shops and performing the most delicate operations with the utmost skill, ability, care and good workmanship.

Therefore I feel that this country has got nothing to be afraid of, if we are ready to do just the most obvious things. There is no miracle required at all so far as British industry is concerned, no new dispensation from Heaven is needed; all that are necessary are common sense, energy and the spirit of research. We have the money for this enterprise. England is not poverty-stricken. It has the financial resources which can be diverted to industry if required. It has also got leaders of industry, with quite as much courage, business energy and enterprise as any other country; it has quite as fine technicians, and quite as able workers. That being the case—and, after all, I speak as one who has had almost a unique experience in this country and in other countries and opportunities of judging such as few people have enjoyed—I think that we in this Institution can go forward with confidence that the work which is to be done here by its members is going to be lasting and fruitful.

EFFICIENCY AND INDUSTRIAL PEACE

The idea once put to me by a Canadian lady of England ceasing to manufacture had never occurred to me;

I was at that time worrying my head to find all the millions I required to increase my works. And I said to her, "My dear lady, you have a false conception. England will go on manufacturing when every other country has stopped." That is the kind of impression we have managed to create even in our own Dominions, simply by that want of confidence which seems to have crept somehow into our midst, and which we must set ourselves to eradicate.

When industry is stagnant, there is every opportunity for active and vigorous minds to discover and advise new methods of production and new methods of organisation. It is useless waiting till something turns up. Industrial unrest is fostered, markets are lost, and possible profits are turned into permanent losses. Upon the technician and the organiser there is great responsibility for industrial unrest. Processes and administration alone will not restore prosperity to British industry, but they can do much to create the atmosphere and provide the opportunity for the revival of that prosperity. That is why I join with you in putting forward every endeavour to promote by every means in our power technical improvement, tending to more efficient and economical production, because through efficiency, economy and organisation may dawn the era of permanent industrial peace.

THE FUTURE OF THE GAS INDUSTRY

I ESTEEM it a great privilege to be permitted to preside over this meeting, which celebrates the coming of age of the Society of British Gas Industries. The success which has followed the history of the Society during the twenty-one years of its activity is a testimony of the good purposes for which the Society was founded, and is a splendid augury for its future usefulness. The Society has now reached its first flush of manhood. The original scope of its activities has been enlarged, its utility has been increased, and all the indications point to still further fields of effort and endeavour.

There has been no time in the history of the gas industry—or, indeed, in the general industrial history of the country—when greater service could be rendered, not only to each particular industry, but to the community at large, than the present. The changes in British—indeed, in international—industrial history, which were so apparent during the years immediately before the war, have had their speed greatly accelerated by the financial and commercial position which the war and the subsequent peace produced. Economic necessity has been even more rigorous in its application; the efforts of the workers to obtain a higher standard of living have been faced with depression in trade, and in many cases by an urgent necessity for restriction in output, with its consequent unemployment and financial stringency.

Generally speaking, the staple industries of the country have failed to maintain their progressive position, and the present troubles in the coal industry have retarded the nation's revival in a great number of industries, dependent upon it for a principal raw material. During all these years, however, the gas industry shows a gradual but definite increase in its volume and in the services which it renders equally to

the industrial and domestic communities. Already the industry has $8\frac{1}{2}$ million registered customers, deals with 17 million tons of coal per annum in its 1500 undertakings, produces annually 280,000 million cubic feet of gas, and places at the disposal of the community about ten times the amount of heat energy provided by all the electricity public supply stations. Given the opportunity which industrial revival will promote, the gas industry will still further increase the number of its customers and the consumption of its product.

THE COAL DISPUTE

I am sure that you will bear with me if, before I speak further of the gas industry and its future, I deal at some length with the present coal dispute in a broad and fundamental fashion—for the future of the gas industry is inextricably interwoven with the future of the industry from which it draws its main raw material. Amid all the fluctuating statements and views which have abounded during recent years upon the basic facts of the coal industry, it seems difficult to express briefly what the real position actually is.

It would not be far wrong, however, to state that on the one hand the world demand for coal has diminished by the utilisation of other forms of heat and power, while, on the other hand, the world capacity of production has increased by the exploitation of new coalfields, and in some countries by the utilisation of speedier and more up-to-date methods in the mining of the product. Further, if we compare the number of people employed in the coal industry in England and Wales, as given in the censuses of 1911 and 1921, we find that the total has increased from 971,000 to 1,133,100. At a time when there has been a restriction in demand, it will be readily realised how serious is the effect upon the prospects of the whole industry of such a great percentage increase in the number of those employed in it.

To meet this basic position, careful consideration of the whole of the relative facts with calmness and deliberation is essential. Instead of this being possible during a period of freedom from industrial disputes, the coal industry has been disturbed by a series of recurrent crises. A main feature of

these recurrent crises, on the one side, has been an incessant demand for higher wages and shorter hours, with, on the other side, an equally myopic view—the position that the only way to rescue the industry from disaster is by thinking and arguing in terms of wages and hours alone.

From the most recent utterances of some of those who claim to lead the miners, it seems fairly clear that the general atmosphere is now one in which the mining community would consider a reduction of wages or an increase in hours at least temporarily, provided there was a definite assurance, supported by some immediate action, that the reorganisation of the industry, recommended in the report of the Royal Commission, would be begun forthwith. Yesterday the Government presented to the House the Mining Industries Bill, which contains provisions, in the words of the Bill itself, “for facilitating the working of minerals and the better organisation of the coal mining industry, and with respect to the welfare of persons employed therein, and for other purposes connected with that industry”. This Bill is important as representing the first official attempt to indicate what the Government understand by reorganisation. Although its main provisions do not go further than facilitating amalgamations, it is at least an attempt to discover what measure of reorganisation the miners will accept as a preliminary to concrete discussions on hours and wages, and a pledge of good faith that the Government propose to promote the reorganisation of the industry.

HOURS AND WAGES

Before dealing more generally with the question of reorganisation, I should like to say a word or two about the hours and wages controversy. It seems to be widely held that there is something sacrosanct in the present hours of working in the coal industry. This is a complete fallacy. The Seven Hours Act was introduced in 1919 on the recommendation of the Sankey Commission ; but it was especially pointed out by Mr. Justice Sankey that it was recommended only on the basis that there would be no falling-off in the output per man. No one can say that this has been the case ; nor, in

fact, is it at all clear that it was ever practicable to reach the same output with such a reduction in the working hours. The basis, therefore, upon which Parliament was induced to consent to this exceptional measure of legislating for hours in an important industry seems to me to have disappeared ; and it appears to me that the industry ought to be made free again to adopt such hours as it may find necessary for its economic existence. Events have proved that you cannot legislate for hours if you do not legislate for wages. Hours and wages are so closely connected that by affecting one you concurrently influence the other.

The increase in wages given in 1924 was obtained under pressure and protest. It was based on the possibility of greatly improved prosperity in trade, increased consumption and higher prices ; but here, again, events have falsified the prophets. The increased consumption of coal has not been reached ; the cost of living has diminished since the increase was given. How can it be logically argued that in an industry where there is under-consumption and intense world competition—which is, in other words, admittedly in a state of depression—wages should not come back to the pre-1924 basis ? I want to emphasise most emphatically the fact, which seems to me to be continually overlooked by the miners' leaders, that their legitimate method of obtaining better wages is through the machinery of the ascertainment and the division of profits.

CO-PARTNERSHIP AND PROFIT-SHARING

When the 1921 agreement was made there was a sincere endeavour to place the coal industry upon a profit-sharing basis. That scheme shows many defects in practice, and needs revision ; but the principle undoubtedly was, and ought to be, that all should share in the prosperity of the industry when it is prospering. The gas industry has for so long been sincerely interested in the whole question of profit-sharing, that I know I shall be excused if I digress for a moment at this point. A gas company was the pioneer firm in this country with a practical scheme of co-partnership ; and no account of profit-sharing schemes is complete or convincing

without reference to the great achievements of the gas industry in this direction. Profit-sharing has been of great value to the gas industry ; and I am myself convinced that it can be of equal value to the coal mining industry.

The Royal Commission recommended that " profit-sharing schemes, providing for the distribution to the workmen of shares in the undertakings, should be generally adopted in the industry, and should be made obligatory by Statute ". The Mining Industry Bill contains a provision " that it shall be lawful for any company being the owner of an undertaking consisting of, or comprising, coal mines, notwithstanding anything in the Memorandum or Articles of Association of the company, to establish and carry out a scheme for securing for persons employed by the company a share in the profits of the company "

While this does not carry out the complete recommendation of the Royal Commission, it is yet a step forward. While I am not prepared to wed myself at the moment to any particular scheme, I feel that the extension of profit-sharing advocated in the report of the Royal Commission by distribution of shares to the workmen in the undertaking does not provide sufficient elasticity. However well intentioned the profit-sharing scheme in the 1921 agreement might have been, it has suffered from its remoteness from the individual's daily work in the pit. It is now generally recognised that, if some modifications could be devised so that the cost of output as well as profits could be more directly related to the individual's work, it would be a great step forward. In this direction, I see not only the possibility of any reduction in wages, which may be necessitated immediately, being eventually more than recouped, but also the beginning of a spirit of better co-operation and greater interest on the part of those who are employed in the industry.

COAL-SELLING ORGANISATIONS

To return to the problems of reorganisation, my remarks upon wages and hours were preliminary and not exclusive. Recommendations regarding reorganisation are an adjunct to the complete scheme. The mere reduction of costs at the

pit will not in itself do all that is required. Over-production would still remain, both in Britain and abroad, and the economic result would be the sale of the product at a figure below the real economic value.

I have for several months, with increasing energy, been impressing upon mineowners, miners and Ministers the value which would accrue to all concerned from the establishment of coal-selling organisations in this country. Some months ago I invited two of the leading directors of the Rhenish Westphalian Coal Syndicate to come across to inform me of the methods and administration of coal-selling syndicates in Germany. There they have been in operation for over thirty years, with ever-increasing advantage to all engaged in the industry. The Rhenish Westphalian Syndicate itself controls more than 70 per cent of the total coal output in Germany. It has been in operation since 1893, and, owing to its size and efficiency, naturally has had a paramount voice and influence in the coal trade in Germany.

Since 1919 it has been a statutory requirement in Germany for coal producers to form themselves into selling syndicates for the disposal of the whole of their output ; but it has not been necessary to put the Statute of 1919 into operation, as producers have voluntarily formed themselves into syndicates. The idea of setting up coal-selling organisations in this country has been considered by an influential committee of coal-owners, and the whole problem was investigated by a sub-committee ; the relative papers and memoranda being circulated to each of the district associations of the Mining Association. The suggestions have met with a very sympathetic reception, and a considerable number of leading coalowners and some of the most formidable companies in the industry have given complete support to the suggestions. The districts of the Mining Association which have already given full consideration to the scheme have decided in its favour. For example, only this week I received information that at a meeting of representatives from eight district associations the opinion was universally expressed that some such organisation was necessary for the successful carrying on of the coal industry. The districts reported that the majority of their members were in favour, and steps are now

being taken for the drafting of a concrete scheme for the approval of the district associations.

The main outline of the proposals I have made is the formation of separate organisations for the selling of coal for the various coal-producing districts. The organisation would consist of all the producers in the area, and would control and market the whole of the coal output of its members. Output quotas on the average tonnage per colliery would be fixed, upon some such basis as the average output per colliery during the past three years. Facilities could be provided for the transfer of quotas and for penalties to be paid to the organisation when the quota allotted is exceeded, and compensation to be paid by the organisation when less than the allotted quota is disposed of.

Selling prices would be determined by the organisation according to the class and quality of the coal. Liaison and co-operation between the various area organisations would be essential; and therefore the formation of a Central Selling Organisation, which would determine the quotas of the various area organisations, adjudicate upon disputes between them, and co-ordinate their activities, particularly in the export trade, is a vital part of the proposals. If and when thought advisable, this Central Selling Organisation would enter into arrangements with its opposite number in Germany or elsewhere for the exploitation of the export markets. I have been assured by most responsible quarters that such an understanding would be heartily welcomed.

The above suggestions are but a bare outline of the scheme; and much as I should like to deal in detail with the proposals, and with the results which would follow their adoption, to-day I will content myself with laying special emphasis upon two points. First, a scheme for a selling pool does not necessarily eliminate the merchant, especially in the export trade, where he is an absolutely essential pivot of our coal-distributing machinery. Secondly, there need be no fear that the establishment of coal-selling organisations would lead to excessive prices. Where they have been adopted in other countries, the necessary precautions have been taken to protect the interest of the consumer. Stabilisation of prices does not necessarily mean undue raising of prices, either to

the home consumer or to the export market. The consumer, particularly the industrial consumer—for instance, the gas industry—is more interested in seeing ahead the course of prices in raw materials for a number of years than in enjoying any small temporary advantage which may be secured by abnormal conditions.

AMALGAMATION

The formation of coal-selling organisations is, however, only one aspect of the reorganisation which is necessary in the coal trade. Here, as in Germany, the establishment of selling organisations would not only control output and stabilise prices, but would lead to the amalgamation of mines and groups of mines. If amalgamation or grouping, as the result of the establishment of coal-selling organisations, proved tardy, it could be accelerated by the functioning of a Board of Commissioners who had inducements in the way of cheap credit and other advantages to offer.

Partly consequent upon amalgamation, and partly concurrent with amalgamation, would be various improvements in the methods of mining, such as more general adoption of coal-cutting machinery, and use of underground conveyers and haulage. With a view to the concentration of output, central workshops and stores would all contribute to economical working, and central staffs of skilled engineers and mechanics would be available to give efficient supervision and maintenance. The potentialities of collieries could be developed. Screening, cleaning, carbonising and power supply plants could be concentrated at central stations. Smalls and slacks could be carbonised to make blast-furnace coke and smokeless fuel for domestic and industrial purposes. Surplus electricity, gas and by-products from the carbonising plants could be utilised. The sale of all surplus gas would be made to local gas undertakings for industrial and domestic purposes. The remainder of the coal which would not be carbonised could be dispatched from the central station as well-graded clean coal, the high economic value of which would bear the cost of transportation.

OIL FROM COAL

Increasing attention has recently been given to what is called the "oil from coal" problem. This is one of the most important developments in the treatment of coal, and by its solution a large portion of the surplus coal production in Europe would find legitimate use in supplying the ever-increasing demand for oil fuels, and render countries like our own immune in war time from the necessity of importation of one of the most vital essentials for our navy and our army. It is certain that the problem is passing from the theoretical to the practical stage. In both the United States and Germany it is already being dealt with on a commercial scale. Mr. R. J. Campbell, of the United States Geological Survey, wrote in a recent report :

It is reasonable to expect in relation to the near future that 100 million tons of bituminous coal will be carbonised at low temperature in the United States. This quantity would yield 600 million gallons of motor fuel, or 8 per cent of the 1924 requirements. Another reasonable expectation is that super-power stations will carbonise at low temperature and generate steam from the pulverised residue. The 60 million tons of coal burned under power plants would thus provide 360 million gallons of motor fuel, which, added to the yield from plants making domestic fuel, would furnish 960 million gallons, or 13 per cent of America's annual requirements.

In Germany, a process has been working for two years on a full commercial scale, supplying its products to the market ; and that process is now being extended. A report from the firm describes the process as a definite commercial success, and "capable of converting low-grade fuels and mine waste into a valuable commercial product". From low-grade coal costing 8s. 6d. per ton, commodities, including semi-coke (smokeless fuel), tar, motor spirit and gas, were obtained to the value of 22s. ; and from raw coal costing 15s. per ton, similar commodities to the value of 31s. were obtained. The smokeless fuel is suitable for domestic purposes, the tar is of a very high quality, and the gas in Germany is supplied to towns which in many cases are situated 100 miles away from the plant.

But the solution which is finding most favour at the present

time is in the direction of high pressure and high temperature. The ingenious process invented by Dr. Bergius has been experimented upon for some time ; and I understand the " I.G."—the big German chemical and dye combination—have recently stated that they are installing a plant on this principle. It is estimated that within two years an annual output of 250,000 to 300,000 tons of synthetic motor fuel will be possible, which means that Germany will be able to supply about 50 per cent of her consumption of motor fuel. Other processes on similar lines are being tested. In fact, the field in this direction of the synthetic production of oil opens up an unlimited vista of future possibilities.

A NEW SPIRIT NEEDED IN THE INDUSTRY

I hope I have said enough about reorganisation in the coal industry to make it clear that fundamental changes have to be undertaken. Nor am I neglectful of the necessity for a new spirit throughout the industry. Until the workers are convinced that everything possible is being done to enable the industry to pay them an adequate wage, there will be no peace within the industry ; until the workers are given a share, and a direct share, in the profits of the industry, there will be no inducement for them to regard their work as anything but a daily task. Unless the owners are prepared to take the men into their confidence, and to say that their industry is not as completely or efficiently organised as they fondly believe it is, and until the latest results of science and research are applied in both the production and the utilisation of coal, there can be neither peace nor prosperity within the industry, nor that progressive revival of British trade which every one so earnestly desires.

THE PART OF GAS

In this complete reconstruction and new orientation of the coal industry, the gas industries of this country have a fundamental part to play. If only the coal industry were as well organised as the gas industry, many, if not most, of the troubles of recent years could have been avoided, or at the

very least postponed. In the development process of the distillation of oil from coal, and the scheme for central pit-head stations for the treatment of coal, the gas industry as at present organised is a basic factor. From these developments the gas industry could secure large sources of fresh supplies of their product at a low rate. In the concluding part of my address, therefore, I would like to say a few words upon a matter which is of immediate interest, and of still greater potential importance—the utilisation of industrial sources of gas supply.

I understand a list has been compiled of about 3000 distinct trades in which gas is known to be used for industrial purposes, and that in each trade it is employed on an average for seven processes. It is certain that the future of the gas industry depends largely upon its industrial load, which is steadily growing. As I have been associated with the supply of gas-making plant for individual uses, and also with the first large central station for the distribution of low-grade gas for industrial purposes, and these connections have in the past been regarded as competitive with the town gas interests, I should like to think that, if there is any significance in my presence here, it is an evidence of an *entente cordiale* having been established between Mond gas and town gas.

LOW-GRADE GAS FOR INDUSTRY

Moreover, you will perhaps pardon me if I indulge in some personal reminiscences in connection with gas. It is exactly a quarter of a century since the Mond Gas Bill was successfully piloted through a Select Committee of the House of Commons, which concluded its deliberations on May 10, 1901. It is interesting to look back over twenty-five years, and remember the very determined opposition which that new and difficult enterprise met with from the gas undertakings. In the area covered by the Bill were the city and towns of Birmingham, Walsall, West Bromwich, Handsworth, Stourbridge, Bilston, Wolverhampton and Dudley. All these sent some eighteen learned counsel and witnesses to try to prove the impracticability of the scheme, and to guard their monopoly rights. There were, of course, dis-

tinguished advocates and witnesses on behalf of the process—including such men as Lord Kelvin, Prof. James Dewar, Sir Frederick Bramwell, Prof. Richard Threlfall and others—and the Bill received the Royal Assent on August 9, 1901, after very costly and difficult proceedings.

I may be forgiven if I say that this enterprise was not one of the kind which are undertaken from any great hopes of personal gain; and the history of the South Staffordshire Mond Gas Company is sufficient evidence to show that whatever hopes may have been cherished, they have not been realised by the promoters. I do, however, think that my late father, who gave this scheme a good deal of personal and financial support, has vindicated his foresight so far as the technical and engineering aspects of the scheme are concerned, and that the forebodings of the opposition were not justified. For twenty-six years the Mond gas plant in South Staffordshire has been distributing, without interruption day or night, many millions of cubic feet of gas per day. This gas has been produced without storage, in units of plant—the make being immediately adjusted to the demand, from a few thousand cubic feet to millions per hour, of even quality with recovery of valuable by-products—and has been distributed through forty-five miles of pipes laid in an area honeycombed with colliery workings. It is serving over a hundred and fifty different customers with a cheap and efficient gas.

I therefore think that, from the industrial point of view, it is an illustration of an attempt to meet the national need from which something could be learned and developed in the light of experience and modern knowledge. The Company has, of course, laboured under very restricted conditions, and for most of its lifetime has been limited as to CO content in the gas, and as to charges for supply; while the gas was not to be used for illuminating purposes or supplied to gas undertakings for such use. Recently, however, some of these restrictions have been removed, and the Company is free to develop on lines which will enable it to take advantage of, and perhaps assist in some little degree in, industrial revival.

My object in referring to this is to suggest that, at a time

when electricity is being made a national affair, there would seem to be need also for the breaking down of barriers which restrict the development of the gas industry. These barriers are partly due to the method in which the production and distribution of gas have developed—namely, within the town areas. The line of development has been the immediate domestic supply, and industrial requirements have been generally a secondary consideration. Indeed, in many towns there is a jealousy lest the industrial user should get gas cheaper than the private consumer. Then there is a sense of rivalry between township and township, each carefully guarding its own entrenched position. Again, the gas industry since its inception has been tied down to the necessity of distributing a rich quality of gas, which can be taken through one system of mains for domestic and industrial purposes alike. This system of mains in many towns was laid down by our forefathers, and it compels the use of a richer quality of gas than economy and necessity demand. Still further comes the question of the huge capital cost which has been invested in gas undertakings, and which generally adds a heavy burden to the supply of gas.

LOOKING AHEAD

Looking ahead, it seems that the hopes of the gas industry are in the development of its industrial load, and in the use of gas for domestic cooking and heating, for which it still holds the field. If the present demand for cleaner towns and greater efficiency in the use of coal is to be met, I think the gas interests ought to adopt a wider policy. The present system of gas production involves the transport of very large quantities of coal into the towns, and the production of a relatively small quantity of gas and a solid residue of carbon in the form of coke, which has either to be sold or to be converted into gas again through water gas plant. I venture to suggest that very considerable economies in capital cost and working cost could be made by modernising (on lines which have already been to some extent worked out) the systems of gas production and distribution to which I have alluded. By these methods it is possible not only to convert

coal cheaply into gas for industrial and domestic heating purposes, but at the same time to conserve for national use a large quantity of valuable oils and by-products. The direct system of cooling, cleaning and treating by-products which has been developed during the past twenty-five years could, I think, be more widely adopted in connection with town gas, and lead to a great saving in capital outlay.

The distribution of lower-grade gas over wide areas is being carried out on a big scale in other countries than our own. In these cases, some of the gas-making plants are situated in the coal areas. The subject of the production of electricity at the collieries has been before the Coal Commission; and the well-known objection which was lodged against the putting down of super-electric stations at collieries was that an ample water supply for condensing purposes was essential to any site selected. Such sites were as a rule not available at collieries. This objection, however, does not apply to a well-considered arrangement of gas generating plant and gas engines; and this combination would afford an opportunity for gas and electricity to be generated together, and made complementary to each other. Where gas was produced at collieries, much better use might be made of waste or inferior fuel which cannot be utilised conveniently for gas production, owing to transport costs. The gas generated could be distributed to the town centres under high pressure, and both gas and electricity could be distributed through the authorised undertakers.

LINES OF DEVELOPMENT

When considering the present coal position, it is comforting to believe that there is no finality in modern industrial progress—not even within the coal industry! New processes may be discovered which temporarily supersede a particular basic raw material; but research provides new commercial uses for these basic raw materials, the resilience of which again gives them the supremacy. Coal has had a huge check by competition with oil and electricity, and just as at one time the gas industry was threatened by electricity, and just as electricity has failed to oust gas from its place of

pride for either industrial or domestic uses, the competition of neither oil nor electricity will, in my opinion, prove fatal or final to the coal industry. With up-to-date steam plants working on most modern lines with powdered fuels, electricity can be produced at a very low figure in this country, and compares favourably with most water-power plants that I know of.

The large gas engine has been somewhat under a cloud. Its development has been disappointing, and therefore it is a very interesting fact that at the Staveley Company's works at Chesterfield they have recently installed a Cockerill gas engine and alternator of 7000 H.P. (5000 KW.) working on blast-furnace gas. It is the biggest gas engine put down in this country, and two more of a similar type are now being built for the same company. The installation costs less than a modern steam turbine electric plant, and is much more efficient. This shows that the big gas engine is by no means out of the running in the race which is being carried on for cheaper power production. Despite all the different methods, we are still waiting for the development of the gas turbine, a problem which has received the study of so many engineers, and the practical solution of which still seems not yet reached. Is it too much to hope that the great difficulties in finding materials to withstand the temperature required can now be overcome by the use of a new series of high-grade nickel-chrome alloys, which have formed the subject of much research during the past year? If so, we may see a new orientation of power production.

Steam, oil, gas, powdered fuel, and different types of boilers, producers and other forms of generators, are carrying on a continuous race for supremacy. Every step forward means the lowering of power costs, and consequently cheaper production of commodities in the future. Scientists of all countries know that the end of this race is not to be foreseen, and many of the questions are still in their infancy. It is the knowledge of these forms of progress growing throughout all industries which makes me an optimist, not a pessimist, even at a time when the industrial position is one of temporary paralysis. The economic difficulties of the Napoleonic era, with its great struggles, were solved by

industrial progress, due to steam. It is by the better utilisation of coal in the various directions I have indicated that we must solve the economic legacy of debt and high taxation left us by the Great War. I feel convinced that this is being achieved ; and if we could only have industrial peace instead of unrest, a wider outlook by those concerned in industry and finance, we could create a new period of progress and prosperity. This alone will enable us, not only to maintain, but to increase, the standard of living of our population, to produce the high wages with efficiency for which there is such a demand, and to support the population which is ever growing.

Those hearers of my address to-day must share, in their various industries, the greater industrial activities of the future. I leave my year of office as President of this important Society—a post I feel much honoured to have been allowed to hold—with a sincere hope and conviction for a better time to come for all its members.

THE RATIONALISATION OF INDUSTRY

EVERY one has been so accustomed for so long to hear and to read of the nationalisation of industry, that there is sometimes a tendency to confuse the phrase "The Rationalisation of Industry" with the old political and economic nostrum of the Socialists. At present it would be an entire waste of time to talk about an entirely dead subject like the nationalisation of industry. I do not know any person of importance among those engaged in industry, whether on the side of capital or labour, who would be prepared to-day to devote any more time to such a barren subject as whether the industries of this country can be successfully managed by a Government department in Whitehall, by people who know nothing whatsoever about them.

THE MEANING OF RATIONALISATION

What, then, is meant by the rationalisation of industry? Any one who has studied the economic condition of the world to-day must have had his mind forcibly directed to certain phenomena appearing not in one country but in almost every industrial country in the world—the grouping together of industry in larger and larger units, and the building up of huge organisations which at one time would have been considered unmanageable and uncontrollable. One of the main reasons behind this tendency is the fact that modern science and modern engineering and the facilities for obtaining capital have to-day brought into existence a capacity for the production of goods which, if not regulated in some way, leads to a chaotic form of competition, over-production, and the appearance of those

periods of booms and slumps which are equally inimical to the interests of the worker and the consumer.

The rationalisation of industry, then, is an attempt to adjust the means of production to the probable means of consumption, and so to regulate prices that, instead of curves rising and falling like the contour of the Alps, there should be a fairly level roadway of prices along which trade and commerce could move. By this way, too, the consumer of any material could base his own estimates for future years, and the standard of living of peoples could be established with some degree of certainty.

One of the most significant signs of this process of rationalisation is to be seen in agriculture, itself the most individualistic, the least organised, the most harassed and the worst remunerated of all industries. For example, over 75 per cent of the entire wheat production of Canada is now sold through one co-operative pool, linked in turn with a similar organisation in Australia and with combinations of farmers in America and the Argentine. This means that the products so pooled are handled by fewer people than before. This fact has prevented, on the one hand, those small margins of over-production which bring about depressions, and on the other hand, it has obviated those small shortages which lead to any undue rise of prices.

All who have studied these questions of over-production and shortage know that the difference between a slump and a boom is rarely more than 10 per cent either way. Hitherto these 10 per cents have been allowed to govern the world, to bring about full employment or vast unemployment, to create great fortunes or cause great losses, and altogether in an endless avenue of ways to disorganise the life of nations. Rationalisation seeks by a more scientific study of price curves and of the growth of consumption so to regulate production as to equalise these precipices and peaks of our mountainous economic landscapes.

THE INTERLOCKING OF INDUSTRY

Another phenomenon of modern times is the interlocking condition of industry. There was a time before distance

became annihilated when we all had a relatively protected market. With the development of modern transport facilities that old natural non-tariff form of protection has disappeared or lost its force. Moreover, there is to-day no national or continental monopoly of brains. Scientific knowledge, skill in engineering, mechanical ability and inventive genius are to be found in every part of the civilised world. Hence, one of the great advantages which Britain had at the beginning of the great industrial era of the nineteenth century has also disappeared.

From this I do not mean to suggest that the race has become too swift for us. This morning I have motored from a large factory which Brunner, Mond & Company have recently erected on the North-East Coast at Billingham for making ammonia from the air. This process, the Haber process as it is known, was started some fifteen years ago in Germany. Before the war, the Germans had what practically amounted to a monopoly of it. They certainly had had years of experience, and aided by their good technical knowledge they had made great progress. Yet in the course of a few years, with the help of British engineers and British chemists, we have been enabled not only to equal the efforts of the Germans, but, I think, to surpass them.

As there is no monopoly in inventions, nobody can say whence the next great idea will come—whether from Britain, America, Japan, Italy, France or elsewhere. This fact implies that at any moment it might be within the power of any one country to project a new idea which would at once disconcert the whole world balance of industry. This instance gives rise to the natural desire in the interests not only of the leaders of industry themselves, but of the world at large, to co-operate with all those working on similar ideas, so as to pool the results of invention and research and to bring to bear, as speedily as possible, and in every civilised country, the economic rate of production. A striking example of this is seen in the agreement which has been reached within the artificial silk industry.

A fact which is not yet clearly understood is that the practice of regarding trade processes as a jealous secret is

out of date. Modern methods require an exchange of information and the fruits of research between all engaged in the same industry. This procedure has indeed been at the foundation of the success of Brunner, Mond & Company, which to-day is rebuilding its works for the "nth" time, and on each occasion it has been with the object of reducing the costs of production.

TRADE NEGOTIATIONS FACILITATED

Another great advantage of rationalisation is the consideration that the larger and more powerful units become, the more easy it is to carry on trade negotiations. Industries nowadays are so complex, their ramifications are so vast and their interests so interlocked, that in the realm of big business nations wish to speak to nations. It is only those nations which can organise their industries on a big national scale which will be able in the long run to survive. We in this country have a long way to go in that direction. It was supposed to be a national characteristic of ours that we are rather slow to learn—we are inveterate individualists. We like to paddle our own canoe.

Britain has an enormous position in the markets of the world, and this position has acted as an impediment in our coming together. But the invincibility of that position had already been challenged before the war. Since the war our export markets have diminished and our export trade has decreased. If we look round at the policies being pursued by the most successful of our competitors, what do we see? Consider the United Steel Corporation of America and the great steel merger of Germany. Opposed to these Britain has perhaps one hundred people all doing parts of the same job, and none of them in a position to negotiate on a big scale. In these days in any great industry capital expenditure on modern plant runs into many millions of pounds. The specialisation of products, the most efficient use of capital as well as of technical processes, becomes therefore a vital factor to success in all modern industry. How can we, split up in this way, energies and resources dissipated, stand up against competitors who specialise in every direction

and concentrate on the most economical and up-to-date methods of production ?

For example, the Committee appointed by the Government to inquire into fuel and power economy has recently received the evidence of an expert, who gave vivid testimony of the immense spread of organisations in the German steel industry. As a result of technical research there, the Germans within seven years have succeeded in reducing the consumption of coal by 15 per cent in the iron and steel industries.

IMPERIAL CHEMICAL INDUSTRIES, LIMITED

It was this same object of pooling resources and of organising new knowledge which led recently to the formation of Imperial Chemical Industries, Limited. Faced with the vast grouping of chemical manufacturers, both in America and Germany, the leaders of the chemical industry in this country considered the relative positions of their individual concerns and of the industry as a whole. After very careful consideration of all the relative circumstances, they came to the conclusion that the time had arrived for the British and Imperial chemical industry to endeavour to form equally a united front.

Strong as the units of the combination were, and capable as they were of operating in the future, as in the past, with profit to their shareholders, and with benefit to the country, it was felt that by union still greater efficiency, both commercially and technically, could be obtained for the development of existing and the creation of new chemical industries, with the great advantage of saving any unnecessary expenditure of capital by duplication and overlapping.

For the firms comprised in the chemical merger operated not merely in this country but throughout the Empire and the markets of the world. They were related not merely as producers but also as consumers of each other's products. The advantage of as close and intimate a relationship as it was possible to create was therefore felt by all concerned. The board of the new company would form a supervising and connecting link in finance and policy, in exchange of knowledge and information, and would enable the British chemical

industry to deal with similar large groups in other countries on terms of equality. The amalgamation of interests would enable them to speak with a united voice, and instead of leaving it to individual units to make arrangements for the world's competitive conditions as they come, would give them all the authority and prestige and advantages of a great combination.

AN EXAMPLE TO BRITISH INDUSTRY

Nowadays life is much too swift for business to be done with isolated firms run by "Smith" or "Robinson", and it is only by the leaders of industry coming together on a basis of sound, conservative finance that they can acquire that strength to enable them to compete successfully against the big groups operating elsewhere. The merger which has been consummated in the chemical industry is, I hope, only going to be a precursor, and an example and precedent of a movement in British industry which in my opinion is absolutely necessary if British industry is to survive in the markets of the world.

For in the chemical industry this was really only an expansion of a principle which had already been seen, particularly in the textile industries. For instance, the Fine Cotton Spinners and Doublers' Association represents forty-two firms, the Bradford Dyers' Association thirty-one firms, the British Cotton and Wool Dyers' Association fifty firms, the Calico Printers' Association seventy-three firms, the Bleachers' Association nineteen firms. These all represent firms which have come together for their united benefit. I remember well when these Associations came into being how people doubted the wisdom of the step. Yet I do not believe that a single member of these Associations would now go back to the chaotic conditions of former times.

RATIONALISATION IN FRANCE

The tendencies in France are similar to those which are operating in Britain, and have been emphasised recently by the British Commercial Counsellor in Paris, who finds that

larger scale, standardised and factory specialised production in France has received immense impetus since the Armistice and post-war reconstruction.

The evolution towards the higher organisation of industry has been most marked in the great basic industries—mining, metallurgy, engineering in several important branches (wire, automobile, electrical, machine tools, locomotives, rolling stock), in heavy and light chemicals, dyestuffs, pharmaceutical, artificial silk, dyeing and bleaching of textiles, rubber, the cinema industry, sugar, potash, paper, shipping and transport generally.

This larger scale, standardised and factory specialised production by organisation both with numerous owned and numerous affiliated factories in various parts of France, has made notable progress; and great French firms have increased to a marked extent their own international activities both as regards producing and marketing. One conspicuous result of these transformations is the definite entry of France into the list as a considerable competitor in the world markets for goods of current consumption.

ADVANTAGES OF AMALGAMATION

What are the advantages of amalgamation? Scientific allocation of capital expenditure is absolutely necessary in successful commercial enterprises. In the past the expert financier has played too small a part in industry. The control of capital in interest and depreciation has often been left to the haphazard whims of owners of individual companies, has been left perhaps to the ambition and aggrandisement of technical managers of works rather than to the calm, cool consideration of the expert scientific mind. We have seen in many directions in this country, as in others, new plants going up when demand could be supplied by other plants already in existence. That is a national waste of money.

We have seen stocks held and duplicated by thousands of firms. That is waste. We have seen capital locked up in stocks that could be reduced to one-half or a quarter, and all the interest on that capital lying dormant which could have been used for other purposes. That is a national loss. There is overlapping in research instead of combination—a lot of people trying separately to do something, who, if they combined, could arrive rapidly at a successful result in this technical work.

Modern mergers are not created for the purposes of creating monopolies or for inflating prices. They are created for the purpose of realising the best economic results which both capital and labour will share to the best advantage. They enable varieties of industries to form an insurance against fluctuations of markets and prices in individual products. In fact, for the shareholder as well as the workmen, fusion acts as a form of insurance against those risks in industry which are inherent and cannot be avoided, even by the most skilful management.

Amalgamations mean progress, economy, strength, prosperity. This great engine of progress and prosperity is immediately available for the promotion of the industrial revival for which the whole community has so long been patiently awaiting, for the strengthening of the bulwarks of trade, damaged by the winds and floods of industrial unrest, and for offensive weapons against those enemies at home and abroad who are attacking insistently and insidiously the fortress of the national fortunes.

MARKETING AN INTERNATIONAL PROBLEM

But all this is only one side of the picture. On the other side we have to consider that the whole world is to-day a universal market, and that the marketing of the world's products has become not merely a national but an international problem. If we could get rid of the limitations of our ideas, if we could conceive the world as consisting of no state except the human state, if we could visualise no boundaries except the boundaries of humanity, many of our difficulties would disappear.

When I was in America last year, I was struck by the fact how easy it was to carry on business in that country. It is not so much American brains as their opportunities I admire. In the United States you have one market stretching from New York to the Pacific, one exchange, one currency, one system of weights and measures, and one hundred and twenty million people all wanting the same hat, the same boots, and the same suit of clothes. Translated into terms of advertising, it meant that you only had to draw out one

advertisement, and it could be spread over a huge continent. Moreover, the same advertisement would do for one hundred and twenty million people. Contrast this position with that of Europe, separated into small States, still greater in number since the war, each with separate ideas, different currencies and rates of exchange (not quite as jumpy as they used to be, but still not quite as stable as we should like to see them); tariff walls moving up and down—but mostly up; and all kinds of minor difficulties which the American manufacturer never hears of—difficulties, moreover, which have been precipitated by some of the follies of the Peace Treaties.

Moreover, it has been curious to find on the continent of Europe that many who had always been Protectionist were now becoming Free Traders. It is difficult to know what has converted them, unless they were finding it much more difficult to do business than they used to do. Whether the conversion will last if business looms up again I shall not be sanguine enough to guarantee. Yet it is none the less true that in the larger centres there is a desire to do away with many of the artificial barriers which now certainly tie Europe's hands and render it more difficult to compete with a continent like the United States.

AN ECONOMIC LEAGUE OF NATIONS

The Rationalisation of Industry has also spread to the political sphere. To-day Geneva is the happy home of all international discussions. After all has been said, the Rationalisation of Industry will only be possible if there was also rationalisation of Government policies. Unfortunately, the Governments of this world are mostly run by people who do not produce the wealth of the countries they govern. If there really could be formed some corps amongst them who really did understand economic and commercial questions, and which could present a united front to their respective Governments on these questions, a great step forward would have been taken. Indeed, I have often thought that there ought to be not exactly an Economic League of Nations, but something similar, on the economic side, to which the repre-

sentations would not be drawn from diplomats or officials, but from amongst the leaders of industry. For industry is after all more than a means of producing commodities and dividends. It is a part of the organic life of nations. More and more it will be found necessary to regulate practice by a kind of international code, just as we have endeavoured to do by means of the international law which now governs nations.

BRITAIN'S CAPACITY TO ORGANISE

There are some people in this country who are afraid that Britain has not the capacity to organise and manage big units of industry. Frankly, it is no easy task, and no one who undertakes it does so with a light heart. There is one thing, however, which I cannot believe, and that is that we are less capable in this respect than the people of other countries. Some time ago I was talking to the head of an American business employing half a million workers. To the question how he managed to control such an enormous concern, he replied, "It isn't we who control the business, it is the business that controls us". In other words, it was not the man who carried the business; the business had to carry the man. From my own experience, on the whole it is easier to manage big affairs than small ones. The only businesses which have ever given me trouble have been small ones. In a small business if you make one mistake it means bankruptcy, but in a big business you can make mistakes and yet come out all right at the end of the year. The business balance sheet is very much like the national Budget. The Treasury officials show wonderful skill in forecasting receipts and balancing expenditure. The real truth is that the total mistakes on the one side about balance the total mistakes on the other.

It would be worse than folly to be frightened by the bogey of incapacity. For in this country there was one thing which did not exist to the same degree anywhere else, and that gave us a great advantage—it was the team spirit. By team spirit I mean the instinct of loyalty between colleagues and a readiness to sink oneself in the pursuit and attainment of a great object. This team spirit is the one essential requisite in the

successful working of large organisations. The heads of big businesses cannot possibly know all the ramifications of their undertakings. They must select the right men, and then have the courage to delegate the details to them.

As a nation we are rather given to self-depreciation, and to think that other people are cleverer than ourselves. It is not true. Other people work hard ; so do we. We can get more done in a given time than any other people in the world. But we do not talk much about it. We have all the qualities, and what is now wanted to carry out the rationalisation process is the abnegation of industrial ambitions and the pursuit of the general good.

RATIONALISATION AND THE WORKER

The nationalisation issue is dead. All the more intelligent men in the Labour movement have come to the conclusion—and it is a perfectly sound conclusion—that the people in an industry altogether can do much better than anybody outside, that it is no use workers and employers scrapping amongst themselves, and that whatever rewards come to either must come in the last resort out of the customer. I am therefore glad to see a coming together in industry. For if the Rationalisation of Industry is to be of any use it must function as much to the advantage of the worker as to that of the public, not only in providing regular employment and on a larger scale, but also in rendering the army of labour more mobile. For it is an extraordinary feature of the haphazard system under which we now live to see a shortage of men in one industry and an excess in another. The only force of Socialism as a means of propaganda is that it holds out to people the hope of something better. It is true that it is upon terms which the Socialist could never fulfil, but we can make a promise that we are able to fulfil and which is within our strength, if only we have the courage to go about it. It is only those who understand industry, who have the capital resources and who can create markets, who can really offer the workers of this country substantial advantages. I am certain that there never was a moment in the history of this country when such an opportunity pre-

sented itself as at present, to bring Britain back to prosperity. There never was a time when the workers were so disheartened by the blind alleys in which they find themselves owing to the folly of their leaders. They are hesitating; with whom are they to throw in their lot? Are they going to join with their natural leaders and co-workers, or are they to swing over to the revolutionaries?

It is in this sense to-day that an enormous responsibility rests upon every man engaged in industry. It is his to see that the workers of the country are guided along the paths of prosperity and not upon the road of ruin. It is his to contribute his own share also to the greater happiness and contentment of all the people.

INTERNATIONAL CARTELS

THE economic condition of the world as a result of the waste of wealth and the dislocation of commerce caused by the Great War has greatly modified the outlook of statesmen and leaders of industry towards certain economic tendencies which had been observed, but not considerably supported, before 1914. Compelled by the rigour of necessity, certain methods and movements which had been partially developed by groups of industrialists in various countries have been studied, and what before was but partially or timidly understood has received a growing volume of support and approval. Among these economic tendencies a place of paramount importance must be given to the formation of what in the United States are called "trusts", in Germany are called "cartels", but what we have preferred to name in this country "amalgamations", "fusions", "combines" or "mergers". It has become rather the fashion to talk about cartels, and to discuss their merits and demerits. But the system of cartels goes back for a very long period of industrial activity, and there was a time when they were not received with all the pæans of praise which they receive to-day.

THE WORLD'S ECONOMIC POSITION

Before the present position of this form of commercial or industrial organisation can be fully appreciated, it will be necessary to review in brief outline certain features of the world's economic position, as it has existed during the last ten years, prevalent particularly in Europe, rather than on the other side of the Atlantic. The colossal expenditure on non-productive purposes which the war involved, and the dislocation which it caused to the economic system of even those countries which were not themselves belligerents,

created a general impoverishment of the people. Despite an increased population, in almost all industrial countries there was a reduced consumption of certain commodities. This necessitated a decrease in production, which involved a large volume of unemployment, the problem of unemployment being further exaggerated by the increase in population. The general position of world trade was further aggravated by the financial instability and wide exchange fluctuations which were a recurring feature of most of the great industrial nations of Europe. You have also a burden of taxation, on a scale which would literally have been thought impossible for any economic body to support before the war, and on a scale which has undoubtedly depressed in this and other countries the whole level of our existence, and, still more, the whole productivity of industrial enterprises.

Add to that the creation, by the various Peace Treaties, of economic chaos, and in Central Europe the creation of new national states, which are impelled with the ambition and desire of becoming independent of other economic units of which they used to be part in the pre-war era. You have also the breaking up of a large economic unit in the disruption of the Austrian Empire, which, with all the difficulties with which it had to contend, formed a more or less compensated and balanced economic unit, which has been roughly torn asunder on a very unscientific principle, according to the formula of self-determination and the formula of race and language, rather than on any economic principle. You have also had the creation after the war, and very largely during the war, of local industries, not merely in Europe, but throughout the world, which came into existence to supply deficiencies the war created. Having once been created, industries of this kind naturally are not going to be allowed to die without a struggle. One may always be certain that an industry once created, like any organism which has once formed life, is very tenacious of continuing its existence.

THE RESULT ON BRITAIN

Within both the old and the new national units there arose the growth of new local industries and the increase of

artificial obstructions to trade in their traditional and varied forms—prohibitions, tariffs increasing in their magnitude, and other restrictions and artificial difficulties, due to reparations. The general world-trade situation affected Britain especially—as the country most dependent for her prosperity upon the export markets. The general impoverishment of the world meant contracted export markets for Britain. Though Britain generally has been able to maintain her home consumption of commodities on pre-war levels, her volume of export trade has seriously diminished. This caused a heavy burden of unemployment, which was stressed by an increase of population of over two millions, and a still greater proportionate increase in the population of working age. Though Britain in the post-war period has been spared the complexity and gravity of the problems presented to post-war France by the devastated areas, and to post-war Germany by the complete collapse of the currency, in her unemployment problem the war created for her a situation which can fairly be compared in gravity. Even that does not give you a comparative picture, because, though the devastated areas of France imposed a very great burden and financial strain upon the country, on the other hand they provided a very large amount of employment to its industries and to its work-people. The complete collapse of the currency in Germany, while it produced a great deal of hardship, and almost ruin, to certain classes of the population, on the other hand produced very great and fantastic developments in industry. There was the great renewal of factories, and not merely renewal, but creation in that country of up-to-date works, which have been completely written off, owing to the fact that the capital with which they were built up was worth nothing.

That is a point which has to be taken into consideration when one is dealing with suggestions of any international cartel arrangement. There is no doubt that the German manufacturer in this respect has a unique advantage over us. In fact, we seem to have suffered from almost every possible disadvantage. We seem to have had neither the benefits of being devastated, which would have created new works, instead of keeping old ones, in this country; nor have we

had the benefits of inflation and the collapse of currency, by which you could have got rid of the plant which will have to be pulled down. Nor have we got rid of our heavy burdens of taxation or of our National Debt. Weight must also be given to those additional causes of depression which Britain has suffered, the constant industrial disputes, with their background of perpetual industrial unrest, and the temporary difficulties following the reversion to the gold standard.

The cumulative effect on British industries is simply this—that of all countries I know, we are left with the heaviest taxation ; we are left with the most obsolete plant, and we are left with the least organised system of production and markets. It is only my confidence in the capacity of the people of this country to survive almost any condition which would ruin any other country, and the curious manner of getting out of her difficulties in a way which we can never quite understand (but which we know always happens), which gives me perfect confidence in the future of British industry.

All these factors have operated either to increase the cost of the production of manufactured goods in this country or have prevented the reduction in the cost of production to a level which would have enabled Britain to compete on equal terms with her old and new rivals. For it must be remembered that over three-quarters of Britain's exports consist of manufactured goods. And the level of Britain's export price index in 1925 was 85 per cent over 1913, while her level of import price index was 53 per cent over 1913.

THE RECOVERY OF EXPORT MARKETS

Our main problem from the economic point of view is the recovery of our export markets ; but not merely the recovery of the markets, but also the recovery at a price which would be sufficiently profitable to enable us to make an economic return on capital invested, to pay wages which people in this country will accept, and have some margin for the purposes of depreciation. There are two lines which are parallel, but seem to be converging, along which, concurrently, the solution to the problem may be approached. The first may be regarded as the external line—the giving of help to other

countries in the multifarious directions possible for the recovery of world trade and prosperity; the second, the internal line—the exploration of all possible means, and the adoption of the most efficient, for the reduction of the costs of production.

The fact that the general main outline of the world's trade situation shows signs of considerable improvement suggests that the time is appropriate for considering the really vital factors in the position. For example, the currencies of many of the countries which have suffered most the collapse or headlong fluctuations of their exchange have become stabilised. There are many who believe that the Cape Horn of the world's trade has already been rounded. There are many, who are more optimistic, who visualise the inauguration of a great period of world economic reconstruction.

The external approach has been rendered more difficult owing to our war impoverishment. I am merely stating a truism when I say that one of the reasons for the diminution of our export trade has been the fact that we have not been in a position to invest as much capital abroad since the war as we were able to do before the war. Of course, the investment of capital abroad in large amounts was one of the main reasons for the continued growth of our export trade. The counsel of perfection, often advocated and so rarely followed, is that, by strict economy at home, strict saving, we should reconstitute that body of capital for investment abroad, and we all hope that somebody else will save!

The internal problem, the reduction of costs of production, is, to my mind, even more fundamental. On the cost of production, finally, the whole economic structure of every country has to be based. It is there that there is most to be done. There are methods of efficiency to be adopted which would take too long to enter into. But, undoubtedly, the question of amalgamation, the question of specialisation, and the endeavour to close obsolete works operating at very high cost, which form a burden on industry and tend to reduce at one and the same time efficiency and wage levels, are some of the essential factors to be dealt with. Amalgamations provide a method by which all this is achieved in the most

humane manner possible. Competition is a cruel thing. It is an axe which will in time fell even the efficient, but it is a slow process and a very painful process.

AMALGAMATION AND THE TRANSFER OF LABOUR

There is often resurrection, or what is called reconstruction in financial language. Reconstruction sometimes occurs more than once before the last gasps of expiry are given. Then you have that terrible picture of bodies of workmen sitting around a decaying or ruined factory in which they have worked, and hopelessly waiting for something to happen for them to be employed. To me those methods really are out of date in a civilised country. Amalgamation is the way in which the transfer of labour from the obsolete to the new modern factory can be dealt with, and it is the way by which the natural process of extinction can be softened down. One of the most disappointing features of the period of the coal dispute was the fact that, instead of some intelligent process being adopted of eliminating what everybody recognised was the large number of collieries which could not possibly carry on an economic existence and pay a reasonable wage—a scheme which was by no means difficult to work, and in reality caused no burden on the industry itself—it was preferred to devastate this country with a strike which cost more money practically than all the collieries were worth, rather than take some rational and intelligent step of making production and consumption on the best lines fit together.

The problem which I am specially dealing with is that of international cartels, but all these preliminary facts have been mentioned, because, after all, the international cartel can only be an adjunct to a development of the national economic position. The present sessions of the International Economic Conference show proof of a new attitude and mentality towards the complex principle of international economic co-operation, and that Conference is a wise and far-reaching step forward. The advantages which would accrue to most participants in international collaboration in the economic field are widely accepted by most, but the question whether

those advantages would be equally or proportionately distributed must give rise to doubt and controversy. Further, all would agree that the difficulties which would have to be overcome before the final equitable consummation, are considerable.

THE SIMILARITY OF ECONOMIC PROBLEMS

The problems of the world have become so difficult, so complex and so burdensome upon those who have the responsibility of leadership, that the spirit which used to run through commerce a generation ago, that every man in your line of business was an enemy, to be treated with great fierceness, has given way to a desire for co-operation and discussion. One very interesting observation I have made recently, in the course of conferences I have had on the Continent with big industrial leaders, is that economic problems in modern countries are extraordinarily similar. Britain has labour difficulties, and her unemployment insurance system is apt to lead to abuses which its authors had not conceived. While Britain has struggled with housing or unemployment, considered schemes of profit-sharing and similar proposals, our colleagues in other countries have been struggling with almost identically the same subjects, and have found the same economic results following in their countries, from the steps taken there, as occurred here. A good many of the ideas that certain difficulties here were due to the viciousness and idleness of the British working man, contrasted with the energy and enthusiasm of the American or Continental working man, who worked long hours, more to secure the approval of his employer than to prove his patriotism, are entirely illusory. Human nature is more alike than different all over the world, and the same consequences flow from economic actions all over the world.

From that point of view, these International Conferences are extraordinarily useful, because they are illuminating to all parties. To get together and move together in step is one of the few methods by which progress can be achieved. It is very largely fear and ignorance, the want of knowledge and the terror which is inspired by rumour, which cause a great

deal of our economic troubles. Financial panics, cut-throat competition, frantic efforts to depress the level of wages or to lengthen hours, are frequently the result, not of any particular greed or vice, but of pure ignorance and terror on the part of one lot of producers as to what is happening elsewhere. If everybody can be assured of a fairly similar level, most people would be agreed to go forward, with a much freer and a much happier conscience. This Conference at Geneva is an approach towards an economic bridge.

DIRECTIONS OF ECONOMIC RAPPROCHEMENT

Two directions have been suggested for the goal of economic *rapprochement*. The first is the political method, through the mechanism of such devices as commercial treaties, preferential systems and the formation of Customs Unions. Some of these devices have the advantages of experiment and experience behind them in some limited or local form, but the suggestion for the formation of a European Customs Union has no set precedent which transcends the boundaries of national or federal units.

The second direction is the administrative method, which operates by agreements among producers. In other words, it limits the scope of such agreements to certain definite commodities, or groups of commodities, to the unaided negotiation of the leaders of industries in the various countries. The successful negotiation of an agreement in one industry would serve as an example to others. In the words of the exponents of this direction of progression, it seeks to proceed "from the simple to the complex instead of attempting *ad hoc* a general solution". The possibility of success along this line raises two questions: firstly, the history and process of amalgamations in various countries; and secondly, the degree to which international agreements have already been concluded consequent upon national amalgamations.

AMALGAMATIONS WITHIN NATIONAL INDUSTRIES

It must be predicated immediately that amalgamations within national industries are an essential pre-requisite to

the conclusion of international agreements. The coal dispute of last year provides a striking example of this proposition. Most of the argumentation which took place during the coal dispute about wages, hours and conditions was entirely outside the real economic range of what ought to have been discussed. The result has proved this, for the coal industry to-day is not one whit better off than before the dispute. This is not remarkable, because the conditions have not altered. When an industry is suffering from over-production and under-consumption, if you merely reduce for everybody the cost of output, you are obviously not removing any important factor at all, but merely putting everybody down. To go on over-producing with the result of cut-throat competition, reducing prices below profits, brings everybody to a lower level. The reason why this position arose was partly due to the fact that there was no kind of organisation for the production and marketing of coal in this country, and no possibility of making arrangements with which to meet the largest competitors in the export markets—the German exporters.

I went at that time to very considerable trouble to try and induce my fellow-coalowners to organise their business on a rational basis, such as I had found profitable myself in another industry for a quarter of a century. At the same time, I got into touch with the representatives of the Rhenish Westphalian Coal Syndicate, which controls 70 per cent of the total output of Germany, and practically the whole of the export trade. Contrasted with this, there were in Britain 613 colliery companies, operating about 3000 mines. The constant failure to achieve any useful purpose was because of the disorganised condition of the industry here. There was nobody capable of negotiating on behalf of the industry, and it was obviously quite impossible to come to any arrangement whatsoever ; whereas I was convinced that, with some intelligent system, we could have done a great deal to save the situation. As it was, everything entirely broke down, because of the disorganisation ; and the net result was the provision of certain facilities for amalgamation, with certain compulsory powers, within the mining industry, through the Coal Industries Act, and the acceptance by a Government

Committee, with certain reservations, of the principle of the co-operative selling of coal.

Much the same difficulty exists in the steel industry of this country to-day. Everybody deplors the terrible condition of the steel industry, yet the remedies for its improvement are obvious. What is the real key to the difficulties? Disorganised as the industry is, there is neither internal nor external machinery to create those better conditions which foreign competitors have already created. If the last German steel combination is studied, it will be seen how this method of organisation concentrates the product of the cheapest kind and the largest scale in the factory best capable of manufacturing it. Instead of scattering it in small orders over twenty factories, they have created a productive efficiency which it is difficult to know how Britain can combat. Further, by the concentration of research and study, they have in Germany already succeeded in reducing their fuel cost by 15 per cent since the end of the war.

PROCESS OF GRADUAL GROWTH

As is proved by the formation of the American trusts, the process of amalgamation is one of gradual growth, from smaller unification of individual concerns or small groups to the larger unification of small groups or large concerns. For instance, the first important agreements in the metallurgical industries in the United States were made in 1880. The agreements were converted into schemes of complete absorption, leaving a comparatively small number of powerful businesses. These were further linked up by fresh agreements, and finally consolidated into a formidable industrial unit. By 1895, Andrew Carnegie had become for all practical purposes the sole representative of the iron and steel industry of Pittsburg, and John D. Rockefeller the sole possessor of the iron ore deposits of Lake Superior. Two great vertical combinations had been effected; one step further only remained to be taken—the creation of the horizontal combination. The furnaces, steelworks and rolling mills were combined with the mines, and to them were added the means of transport, shipping and railways. Then

follows the combination of the various classes of users of pig iron and steel—for example, cast-iron piping, tinplates, wire, etc.—again, vertical combinations. In 1901 the next logical consolidation was consummated, by the absorption of the great horizontal combination, and the consequent series of vertical combinations into the United States Steel Corporation, which to-day has a capital of over 1000 million dollars, and controls two-thirds of the metallurgical production of the United States.

I cannot do better than quote M. Paul de Rousiers, as an entirely impartial observer, upon the results of the operations of this trust :

This rapid and epic development of metallurgy in the United States certainly exhibits one feature—and the most permanent feature—of American trustification. It is a series of triumphs, rather than a series of agreements. At the same time, it is not accompanied by any attempt at establishing a monopoly. If at one time the Trust combines under its sway two-thirds of the metallurgical production, it soon loses this advantage, by the very fact of the industry expanding, and does not seem to be adversely affected. Moreover, it makes no violent attempt to eliminate competitors.

THE INFLUENCE OF FINANCE

The creation of amalgamations and cartels, both in the United States and Germany, is not so much the outcome of the spontaneous meeting together of manufacturers, not so much the result of Boards of Directors wishing to immolate themselves on the altar of production, or of industrialists desiring to bury the hatchet. It is very largely the work of financiers and bankers. The Steel Trust was formed by Messrs. Morgan, and it was a very brilliant financial operation, out of which they made a very large amount of money. Most of the big mergers recently made in America are very largely due to the large finance houses. In Germany, too, the big amalgamations, particularly in the time since deflation, are the direct result of the influence of the great German banks, like the Deutsche Bank and the Dantziger Bank. The German banks have not stood aloof like the British banks have. They have been active partners and participants in the development of German industrial life, and the result is that

they understand industry. They have representatives on the Board of every great industrial undertaking. They hold large blocks of shares in every industrial undertaking, and they are largely in a position to conduct lines of policy.

This is a point which needs serious note. I sometimes wonder if the British banks will be able to maintain the attitude which they have displayed in the past—that it is no part of their duty to take any interest in the direction and management of industrial affairs. They are becoming more and more involved by very large overdrafts in industries which are in a very parlous condition. They will either have to incur very heavy losses when those concerns go into liquidation, or they will have to take into their own hands a redistribution and reconstruction of those businesses, of which we have seen two examples recently, in Vickers, Limited, and Armstrong, Whitworth, Limited. If the banks had interested themselves at an earlier stage, and intervened, and been better informed of the position, exercising close supervision over the finance, it is possible that these concerns, instead of going into a period of liquidation, might have avoided any liquidation taking place at all.

PRESSURE OF OVER-PRODUCTION

Of course, different economic causes may produce the same results, for American amalgamations were formed under the stimulus of increasing production, and of a still more progressive expanding consumption, while the process of combination in Germany was inspired by diametrically opposite factors. For the first German cartels were created under the pressure of a constant danger of over-production, which connotes that production was expanding out of proportion to consumption. In Germany the cartel—and I use the word cartel to include fusion, pooling arrangement, quota arrangement and price convention, because a cartel is protean in its form and can assume many different technical methods of creation, which have to accord to a particular industry or a particular period of development—has been in existence for a very long period.

The governments in Germany have favoured this form

of combination, whereas, in America, the governments have been, on the whole, consistently hostile. America has favoured more anti-trust legislation and has more trusts than any other country in the world, proving truly once more the futility of legislation in trying to interfere with the natural development of economic law. In Germany the opposite has taken place. There the governments have not only favoured, but have to some extent compelled, combination in industry, although they have kept a certain amount of control, direct or indirect, in how they have been carried on. There, too, the speed of progression towards the formation of cartels has been accelerated since the deflation period. Deflation caused the destruction of capital. Impoverishment and the difficulty of restoring balance-sheets on a gold basis created great difficulties for German industry. German industries, like industries in other countries, had over-expanded in productive capacity in many directions during the war, especially in the metallurgical industries. When Germany was not allowed to build any more warships, it meant putting out of commission a very large amount of plant and machinery which had formerly been fully occupied. Therefore, circumstances of many kinds compelled them to come together. Also, Germany sentimentally has more of the cartel habit than Britain—not that they are easy people to get together, but there is always one with a loud voice who hits the table very hard, and usually manages to get his way by sheer lung-power.

As a reaction against this process of government intervention, the tendency in Germany at the present time is towards the rationalisation of industry, which may be defined as the grouping together of industry in larger and larger units, with the object of adjusting the means of production to the probable means of consumption, and so to regulate prices that there should be a level path along which trade and commerce could move. This tendency is described in the American Commerce Reports of December 27, 1926, in the following words :

In Germany the degree of amalgamation has become much closer than before the war ; in other words, there has been a growth in the tendency to project the cartels into the region of production, as well as distribution.

DEFINITION OF A CARTEL

I have been asked to define a cartel. I have used the term rather indefinitely. In an ultra-technical way, a cartel might be defined as a combination of producers for the purpose of regulating, as a rule, production, and, frequently, prices. That does not involve giving up the identity of the different firms. It is not usually made for a period lasting more than a limited time. It does not necessarily carry with it, though in some cases it does, joint selling agencies. Sometimes, too, it carries with it quotas of production. But all this is, perhaps, too narrow a definition. The Germans have a term *Interessen-gemeinschaft*—they do not use the word cartel. Strictly translated, that term means a union or similarity of interests. The great German Dye Trust started with what they call *Interessen-gemeinschaft*. When first formed it was a fairly loose combination to regulate production and prices. It has been substituted since by an absolute and complete fusion and exchange of shares—what we should call a complete amalgamation—which is the final and most complete form of any kind of cartel which can be imagined.

I have been engaged in a good many pools and cartels of various kinds in my business life, and no two of them are exactly on the same basis. In some there may be a pool of prices, with an average of prices ; in others there is not. In some there is a division of markets territorially, and in others there is no division of markets in relation to quotas. From the point of view of general principles, I do not think it matters much which particular technical description is adopted. The matter was considered very carefully when Imperial Chemical Industries, Limited, was being formed, for that combination is a fusion, rather than a cartel. There has been combination, both national and international, in the chemical industry for a long period of years. The agreements were always of a somewhat temporary and fugitive character. Those agreements have now been advanced to the full extent of all the advantages of a complete combination.

EXCHANGE OF INVENTIONS

One of the great advantages of a combination of this kind, particularly if it has international implications as well, ought to be the complete exchange of technical inventions and improvements. That is really one of the main ideas behind them—to get a free exchange of information of a technical character. To secure that there must be more than a temporary armistice ; there must be permanent peace. The cartel or combination which exists only for a limited number of years is in reality nothing more than an armistice in industrial warfare, and people are not going to hand over arms and methods of warfare to those who in a few years may be fighting them again. Therefore, you do not get a complete and full exchange of information, of patents, inventions and new processes. Such an exchange is of fundamental importance to progress, not merely in particular concerns, but for the development of the industry as a whole ; and herein lies one of the most important features of the whole of modern industrial and economic conferences and combinations.

The rate of invention and the speed of improvement are so infinitely greater to-day, and so infinitely more world-wide than they used to be even twenty years ago, that there is no country, far less any company, which can confidently assume that in ten years' time it will be ahead of any one else. This is recognised to-day by those who are the most intelligent leaders of industry. At the same time, it is equally recognised that there is no advantage to the world in carrying on obsolete, costly and inefficient processes. They are obviously a dead economic loss. Therefore, it is to the general interest that the best and most up-to-date methods of carrying on an industry should be investigated as rapidly as possible. They would probably be replaced, in any case, so quickly that, unless they were rapidly extended, the original owners of them would not be likely to derive a large economic benefit from them. The way in which that can best be done is by complete fusion. Another thing arising from complete fusion is specialisation ; the closing of inefficient factories ; the concentration of management ; the concentration of commercial propaganda, as well as the selling and other

expenses, not merely at home, but all over the world. That is the kind of ideal which can be brought about by complete exchange of shares, and by the complete pooling of profits.

AMALGAMATIONS IN BRITAIN

Before recounting what has already been achieved in the direction of international cartels, there are one or two observations which must be made about combinations in Britain. In the first place, it must be noted that forms of industrial organisation in Britain have a habit of adopting native or national characteristics. All industrial amalgamations here will, and, indeed, must be formed in accordance with the history, traditions, and mentality and nature of the country and her industries. Next, the essential need of Britain is the development and regaining of her export trade. In so far as some part of that export trade could be regained by increased industrial efficiency and reduction of costs, it is purely a national concern ; in so far as it depends upon the removal of artificial barriers to trade, of whatever source or nature, it is an international concern.

For my own part, I see the most effective instrument towards the increase of industrial efficiency and the reduction of costs in the rationalisation of industry. The formation of industrial combinations is but one of the many methods tending towards the rationalisation of industry. But it is that which lies closest at hand, and it is that through which the beneficial results may be most rapidly achieved. As the main purpose to be achieved at the outset is the reduction of cost of production, to enable lost export markets to be regained, I refer particularly to producing industries, such as the metal industries and the textile industries.

When the chemical merger was consummated, the public appeared to have been impressed with the magnitude of the amalgamation, largely on account of the size of the authorised capital. The fact that it was the logical outcome of a continuous process of amalgamation, at least as far as three of the merging companies were concerned, which had been progressing partially, both vertically and horizontally, for many years, was largely overlooked. It was forgotten that

Brunner, Mond & Co., Ltd., was itself a virtual combination of fifteen firms, Nobel Industries, Limited, of fifty firms, and the United Alkali, Limited, of a process over a period of years which has resulted in the absorption of forty-eight firms.

Moreover, it was forgotten that the Report of the Committee on Trusts in 1919 had stated :

We are satisfied that trade associations and combines are rapidly increasing in this country, and may, within no distant period, exercise a paramount control over all important branches of British trade.

Unfortunately, however, no scientific investigation has recently been made into the extent, motives and purposes and results of industrial associations in Britain. Nor has any special study been made of the nature and form of such associations. Every association has been indiscriminately dubbed a "combine", and any analysis made has been on the basis of the classification of the industry. Thus, within the textile industries, we hear of the Fine Cotton Spinners' and Doublers' Association, which represents forty-two firms ; of the Calico Printers' Association, which represents seventy-three firms. Compared or contrasted with these, mention is made of the Steel Makers' Association or the Steel Bar Association, or of the Lead Conventions or of the Sulphate of Ammonia Association. But any information given us by the writers on Industrial Combination in Britain is very nebulous and negative.

ADVANTAGES OF AMALGAMATION

In whatever form industrial association in this country may eventually, perhaps, be stabilised or standardised, its advantages from the purely national or insular point of view are becoming increasingly recognised. In the first instance, from the narrowest point of view, it may be desirable to recapitulate, even at the risk of tedium, the main of these advantages. By the concentration of control of an industry, even within the bounds of a particular country, there must immediately follow energetic economies in all departments of

production. Large-scale production, even if the units of production be separated over a country or a continent, must result in the reduction of cost in almost a thousand diversified ways.

In the first place, there is the question of the cost at which the capital required for extension is obtained. A large-scale organisation, with a large reserve and infinite resources, can obtain its additional capital from investors, or its further credit from the financial houses at a very much cheaper rate of interest than a company operating in a small way. In many operations, the success of one subsidiary company can finance the development of another without appealing to the banks or the public for credit or credit facilities. When resort has to be made to the banks for credit facilities, the interest on such money as is made available is not only decided on a competitive rate, as far as rival houses go, but is determined by two other important factors—first, the value of the companies' real assets, just reputation and prospects; and second, the alternative which is readily provided, on an appeal to the public, cheap money in the form of preference shares is immediately and completely available, because of the confidence in the control and the certainty of dividend.

Pass from the provision of finance to the erection or equipment of the plant. Modern industry in this country, to meet the competition from rivals abroad, must engage in large-scale production. The provision of the plant and machinery, mechanical and otherwise, for large-scale production involves the expenditure of millions of capital. No small firm, operating on a small scale, can successfully compete with the large-scale producers abroad, no matter how closely organised they may be in organisations for the maintenance of prices within a restricted market. The large-scale organisation, without in any way sinking or depressing individuality or inspiration, can erect its plant at the lowest possible cost, man it with the best technical and other ability available, and produce the best possible returns in cost-reduction, initiative, and in dividends to the shareholders, salaries to those engaged in managing, directing and supervising, and wages to the other co-partners in production—the workers—whether their work be mainly by hand or brain.

But even before a process is devised—after the original discovery has been made by an inventor—there is a further large area of research to be undertaken—shall we say, on the engineering side? A large-scale organisation can afford to have at its command competent researchers to undertake long-period research into fundamental problems, those working on the solution for a specific problem, and those who can implement a particular invention or discovery by the provision of a technical apparatus to produce on a recognised commercial scale.

The product is produced. It has to be passed on in the cheapest possible way to the public. A large-scale organisation is in immediate and ready touch with all the available markets. Its sources of information are fresh and up-to-date. Its agencies cover world markets. Its administrative expenses are based on the lowest proportionate cost, owing to its vast production, its varied products and its rationalised arrangements.

And economies in the administration of sales organisation are only one branch, and not necessarily the most important branch, of the administrative economies which can be effected. For example, in purchase of raw materials, no less than in the sale of products, the advantages are apparent—that is, if raw materials have to be purchased on the open markets. In internal administration, in every branch of its interminable operations, equal economies can be effected.

There remains the problem of merchanting abroad, in face of foreign competition. A large-scale and unified organisation, which can speak for the whole of an industry within national boundaries, can speak for Britain on at least equal terms, with those large-scale organisations which have been developed abroad. The result of such discussions on terms of equality must be of advantage, both for the world scope of the industry and for the component branches in the various political divisions. There can be arrangements for the equitable pooling of the world's supply of the required raw materials, for the interchange of information and invention of technical discoveries and processes, for the equitable distribution of the products in a manner avoiding the wasteful cost of unnecessary and often inimical competition

CO-OPERATION OR COMPETITION

Such, then, is a brief outline of some of the advantages of amalgamations in industry from the British point of view. The question which must be decided is, whether there is to be co-operation or competition. Competition in industry within a nation has inevitably led, through the demands of hard necessity, to co-operation. How of the international sphere? The same decisive economic law of nature must apply with equal, if not greater force. Co-operation must combat competition, to the discomfiture of the latter.

Rationalisation of industry within a country has been defined by Mr. W. Oualid as "organise their technique, perfect and unify the conditions of production, use the various establishments, factories and workshops, for the manufactures for which they are best suited; economise staff, standardise products". What, then, is international rationalisation? The answer is, international cartels. The alternatives which present themselves are anarchy or organisation.

This raises a whole series of questions of fundamental importance. Is it proposed to treat the whole industry of the world as an economic unit? Is it proposed to adopt as a standard the thesis that every country should produce that which it can produce most cheaply, solely in exchange with every other country for the products which that country can produce best? Are you going in any one given industry to close down whole branches of it, and transfer the whole of those branches to some other country? If there were no boundaries, if there were no states, if there were no sentiment, if the perfect state of perpetual peace could be presupposed with certainty, that is very probably the course which events would ultimately take.

People in the United States do not trouble themselves very much if a certain part of American industry goes from the eastern States to the southern States. In the United States there is a continual transmigration of industry. A large part of the textile trade of America has left the eastern States for the southern States. At the present moment, the steel industry, which once was in the eastern States, and then

travelled to Pittsburg and the area of the middle States, has transferred itself to Alabama, which is in the south. If such things were to happen in Europe, the outcry would be tremendous. It would be comparable to our steel industry suddenly wandering to Petrograd, and our cotton industry to Poland. Everybody would think that the end of the world was at hand. On a smaller scale the same sort of process would be seen, if the development of the coalfields in Kent substituted Kent coal for Northumberland coal. It is very curious that all these questions of internal movement, which undoubtedly is taking place, receive practically very little attention from the economists or from the Press. They are disregarded as non-existent, so deeply rooted in us is the idea of nationalism in industry and trade.

NATIONALISM AND INTERNATIONALISM

What I have indicated is the ideal which enthusiasts ought to place before a League of Nations Conference, but it is not the proposition which I desire to advance. In our present state of sin, or shall we say, when human feelings are what they are, it is impossible to operate on such lines. The growth of units as nations cannot be disregarded. The whole development of the nationalism of countries cannot be sacrificed to purely economic considerations. Humanity in general is very little affected by economic considerations, but it is deeply stirred by sentiment. Therefore, the problem cannot possibly be handled from the purely abstract point of view. Nationalism and internationalism are in conflict in every part of the world. Whereas by logic and economics an international solution to industrial problems may be desirable, political considerations and sentiment which tend more on the national side cannot be ignored.

Is the world in a state of perpetual peace, or is its progress frequently interrupted by war? Looking round the world to-day, I do not see that the prospect of perpetual peace is made secure. Nor are reminiscences of pre-war conditions sufficiently far away to induce me to say that I, personally, would consider it wise for this, or any other great country, to arrange its industries by international agreements of such a

nature that the important industries, on which they may have to depend in war time, would not be able to be operated at a moment of need. Any such course would be of a very light-headed and almost criminal character.

During the last war Britain was very much handicapped in the provision of munitions because she was not in a position to make synthetic nitrate of ammonia. I am glad to say that has been remedied. Britain was in a great difficulty because she could not make dyes. That has been remedied. Britain may have to run risks because she has to import her oil, but I hope that, in a few years' time, that will have been remedied. Those are a few of what one may call the important key industries. In making an international cartel, responsible men would always have to keep in mind the fact that there are industries in this country which are so important to our national existence that, even at some cost of economic considerations, you would be bound to stimulate them and keep them alive and efficient in this country.

THE IMPERIAL COMPLEX

But this is but stating a part of the problem. In the present state of political and economic ideas in Europe—indeed, in most parts of the civilised world—and for a long time to come, no definite division between the political and economic spheres and necessities can be established. Geneva, at the moment, has more documentation upon, and is more concerned with, the consideration of the removal of statute-made trade barriers than with the more vital and fundamental consideration of the foundation of the era of real industrial co-operation. Rationalised industries within national limits will still largely be dependent upon outside sources for their raw materials. The United States is already, for all practical purposes, a Customs Union. Artificial barriers, restrictive of trade between the various States, have been removed. Europe is more than groping towards the implementing of the ideal of a European Customs Union. But is Europe, even including Russia, provided she recovers economically within a generation, capable of maintaining her industrial production without the importa-

tion of raw materials from other continents—cotton, for example ?

While I support with all my heart the development of industrial amalgamations in this country, and while I desire equally to see the expansion in every direction of international industrial agreements, I cannot exclude from my vision the fact that, from the British point of view, what is of far greater moment is the conception of the British Empire as an economic unit. Its resources in raw materials are almost infinite. Its population is gigantic, and its potential consumptive capacity is unexplored. The British, as a nation whose main occupation now, as against the rest of the world, is the production of manufactured goods for export, has within the Empire the markets for the absorption of these manufactured goods. The various component parts of the Empire, which are, in some essential raw materials, already actually, and in others vastly potentially, the chief source of supply for the world's industries, seek markets for their natural products. Within Britain the Empire has its markets, on the basis of a free exchange of products.

Britain cannot cut herself off as an economic unit, and treat herself as if she were a country like Germany or France. Even France cannot do it, because she, too, has an empire. In our relations with continental countries, we have always to remember that our first consideration ought to be, how any steps we take will affect the imperial economic unit. That is where the whole matter of international cartels comes up with a bump against an extraordinarily difficult position. I would like to sound what I think is a necessary warning note. In discussions with continental friends on the question of economic divisions, I have noticed a tendency for them to ignore or deny the imperial aspect. They say : " We want to deal with you for Great Britain ". I have always said : " You cannot deal with us for Great Britain. You either deal with us for the British Empire, or you do not deal with us at all. I do not admit that there is such a thing as Great Britain. I admit only an economic unit, and that is the British Empire."

It is absolutely essential for us to maintain that attitude, and insist on it. If you do not, you are breaking the British

Empire up into fragments. You will have continental penetration into the Empire, as you are having American penetration already far too much in the Dominion of Canada. That continental penetration into the Dominions will act as a disruptive force in the whole picture of the economic unit of the Empire. In all attempts, to which I am entirely favourable, to work in a close manner with continental countries, that is an aspect which we can never afford to ignore. It is that danger which renders a good many people in this country rather frightened at the mere mention of international cartels. They see in them an attempt to draw us into the orbit of the European economic unit, and that tendency is quite alive to-day among many important interests on the continent of Europe. To some extent it has gone to the point of trying to form what might be called a European economic unit complex against the United States, which is not altogether the best line for Great Britain to take.

THE OBJECTIVES

The problem of international cartels is not, then, free from difficulty. I do not propose now to give any recital of the technical difficulties which arise, such as double taxation, the laws of different countries, the difficulties of exchange, and the management of interlocking boards of directors. One could go on elaborating these points at enormous length, but I do not think that that would add very much to the value of the present discussion.

But what you are entitled to ask me is: What do you consider the line which we ought to take on the problem which is more or less continuously at our doors? I would summarise the answers as follows: You have to organise and rationalise British industry; you have to endeavour to rationalise imperial industry; you have to combine imperial arrangements with international co-operation; and there is no reason, if those points are clearly grasped and kept in mind, why they should not proceed concurrently. Imperial consolidation and international peace are both objects which we wish to achieve. They are both objects which are for the benefit of humanity. The one does not, to my mind, exclude

the other, but the one should not be allowed in any way to destroy the other. They will have to be followed on different lines, though at the same time.

BRITAIN'S ADVANTAGES

Britain will have some difficulties, as a Free Trade country always must, in negotiating in international cartels. Protection has advantages and disadvantages, just as Free Trade has. But in negotiation, the man behind the tariff wall always has something with which to bargain, which the man in the Free Trade country has not. Any one who has any practical experience of bargaining with continental producers knows that the first thing they say is: "You cannot export to our country, because we have a tariff. How much of your market are you going to give us?" But we need not be unduly apprehensive. There are certain positional advantages which Britain has of which nobody can ever deprive her. One is her geographical advantage.

The geographical advantage of this country, from the point of view of export and shipping facilities and nearness to ports, is only realised when one has to study carefully the relative advantages of works sites in this country, as compared with works sites on the continent. The advantage of being able to ship almost directly in ocean-going ships, whereas, in continental countries, the works are many hundred miles inland, is one of the advantages of this country which nobody can take away. Britain has the advantages of financial and political stability. She has the advantage, when all is said and done, of more stable conditions in labour matters than they have in other countries. She has the advantage that goodwill carries for British goods throughout the world. If the advantages and disadvantages are balanced with courage and persistency, a fair equivalent is reached.

That being so, the international cartel, or the movement towards international combination, ought to be of great mutual benefit, both to the shareholders of a particular company whose directors are intelligent enough to arrive at such an arrangement, and to all those engaged in the industry, especially to the worker. Stability of employment is

much more important to him than to any one else. Then there are the improvements in industry which would result in the shape of cheaper production. Cheaper production naturally implies the possibility of paying higher wages. It also means cheaper goods, and, therefore, much increased consumption and a better standard of living for the community at large ; or, if you take the widest scope of vision possible, what is for the benefit of one must ultimately tend to the benefit of all.

THE BIOLOGY OF INDUSTRY

We are all beginning to understand that neither the impoverishment of classes nor the impoverishment of nations is for the benefit of any one anywhere ; just as we have all learned that, in making other countries poor, we become poorer, and not richer, ourselves ; just as intelligent observation in a country like the United States has taught that, the greater the consuming capacity you can give to the people, the greater the profits you will make in your industry ; so, in the same way, the greater the industrial progress that can be made in all countries the greater the benefits that will be derived. This may seem somewhat of a paradox, but I hope that those who are interested in this question will think it out carefully. It is too often assumed that, in industry, what is one nation's gain is necessarily another nation's loss. That is not a true picture. It is just as fallacious, being based on the static view of consumption, as was Ricardo's Wage Law, which was based on the static view of the wage fund. The sooner people grasp the fact that industries are biological and dynamic, and not static, the better.

I have had a fairly long experience in the results of international combinations of many kinds. My experience, on the whole, has been that they operate favourably. The manner and method and scale on which each industry carries out its own consolidation can only be laid down and defined by those who are engaged in the industry. In fact, it is only the leaders of the industries themselves who can translate the theoretical into the concrete. A great impetus can be given by sympathetic handling of the idea. A great impetus can

be given if those who are not immediately concerned in the mechanism give a benediction to the conception, and in that way teach the public mind to regard these problems, as I have endeavoured to treat them, in a wide sense of general interest, in a wide sense of general benefit, and in a wide sense as leading eventually to one of the greatest factors towards international peace which I have yet been able to conceive. The twin objects of imperial consolidation and international peace can be achieved along converging lines and concurrently, to the everlasting benefit of civilisation.

NATIONAL SAVINGS, PROFITS AND DOUBLE TAXATION

THE subject of large combines is naturally one which must exercise the minds of those who are concerned with modern economic matters. I have spoken about it often recently, and I have no wish to repeat myself to-night, except that there was last night in the House of Commons—and unfortunately I was absent in Brussels—a debate on this subject initiated by some of the Socialists. I have found time since my return to look at it, but it has not conveyed much instruction to my mind. One of my difficulties in arguing with the Socialist Party is that they show a profound ignorance of facts and deduce an entirely false theory, and of course that does not make it easy to carry on an intelligible controversy.

COMBINATION A NECESSITY

Great combines are not questions of changing likes or dislikes. They are the natural evolution of events which have got to be accepted and which are a part of the evolution of industry which is taking place all over the world, and taking place so rapidly in other countries that one either has to go with the stream or to be left behind. When one comes to think of it, this process of evolution is essentially natural, for to-day everything is forming into much bigger movements and doing so much more rapidly than formerly.

Time becomes more valuable and more precious. Twenty-four hours are very much too short to get through any serious work, and if somebody would only invent a thirty-six hour day, I should be a much happier man. Therefore the combination of industries in various countries becomes absolutely necessary. You cannot discuss big problems of industry

with other countries until your own industries are organised first. Only recently I had occasion to talk with the leaders of big organised industries on the Continent, in Germany and in America, and I discussed this subject. These people want to talk to one or two men who represent industry in England, and if I heard one complaint made it was the impossibility of carrying on any negotiations with some great English industries, because they have not yet solved this problem and there is nobody to talk to. There is simply nobody with authority, and however big any individual company may be, it represents only a small fraction of the industries of the nation, and therefore a representative of it cannot speak in an authoritative manner.

The question was illustrated only yesterday by a discussion I was having with regard to France. A plan for introducing a very important industrial development there is entirely held up by the fact that there is no one in France to speak for combined industry, and that there is no one to deal with. Therefore the combinations of industry which are taking place are literally forced upon us, and although many people may not like the development and see the difficulties and disadvantages, all I can say is that it will have to come about if Great Britain is to maintain her place in the commercial and industrial picture of the world. In fact you want to eliminate unnecessary capital expenditure. You want to eliminate unnecessary competition. You want to eliminate unnecessary fluctuations in production, and you want to be able to foresee the probable needs of consumption. All this is to the interests, not merely of the producer and capitalist, but it is to the interests of everybody in a reasonably organised community to-day.

CHANGED IDEAS OF INDUSTRY

Any advantage to be got from the old manner of trading no longer exists, and what you want to see are progressive aggregations proceeding in a reasonably orderly manner. Since I was a young man, a good many years ago now, ideas of industry have changed considerably, very considerably. When I started, much more the idea of business was to do

somebody else down ; that we were in business to make money for ourselves, and that we were not concerned with anybody else's difficulties. If the other man made money, we did not mind. But now there is a different atmosphere. To-day, unless we can exchange ideas and co-operate with all the brains, no one can see sufficiently the future of events. We must bring the organisation of business closer and closer together. Therefore, I look forward with certainty to the gradual development of industrial organisation, and of a policy to deal with it.

BRITISH AND AMERICAN INDUSTRY

Some people have referred to the incompetence of the English people in large business organisations, but to my mind we are just as competent and incompetent as other people. That is to say, we find competent and incompetent people in all countries. There is an idea that in America everybody is considered a superman, and that every works is equipped with the latest machinery, and that all American firms are the most wonderful and statistically the best ever seen, and American products the best ever made. But none of these statements represent the truth. I have examined the industrial conditions of America. I have seen bad works in America. I have seen men who are not supermen at all. I have seen companies badly organised, and I have seen companies extremely badly managed, and that is exactly what you have in any other country. The best business brains of this country, and the best technical brains of this country, and the best organising brains of this country, will hold their own against any other in the world. I have no doubt about that whatsoever, but they simply do not get the opportunity.

I find, having grown up in a business which started from small beginnings, that, just as a business grows, so people grow with it, and things which might have seemed impossible and difficult years and years ago to-day have become quite easy, the routine work rarely causing any particular trouble. In fact the head of a big business to-day really has not time to concern himself with what you might call the running of everyday business. The business man

is properly occupied with new ideas and new developments, and, therefore, there is no fear of his vision becoming clouded by the drudgery of routine.

I am a great believer in the youth of England. The youth of England is not decadent. It is competent and virile, but it has never been given a chance, and the only complaint it has is that it is not given enough opportunity. We are just a little afraid of anybody who has not got to the stage of one foot walking to the grave taking over any responsibility. That is a mistake. It is better to let young men make mistakes now and then, so that they can learn to handle things, than to keep them too long in leading strings.

CAPITAL RESOURCES AND NATIONAL SAVINGS

All these questions depend really on what large organisations require. They require large capital resources, and the question to ask surely is where are these capital resources to come from. These capital resources after all have to come out of the national savings. We have recently had the report of a Committee on National Debt and Taxation under the presidency of my friend, Lord Colwyn, who has devoted so much time to public work with such ability. The Committee dealt with this problem of national savings, and the Report tells us that for the year 1913 the total national savings have generally been put at between £350 millions and £400 millions, or a mean figure of £375 millions. Remembering that the year 1913 was a prosperous one, we may regard this amount as somewhat above the normal standard. A detailed estimate was placed before the Committee, giving a figure of £500 millions as the savings of 1924, subject to a margin of error of 10 per cent in either direction. But although the mean of the two resultant figures would still remain at the sum of £500 millions, the Committee report that they are disposed to think that a figure of £450 millions to £500 millions represents the best estimate that can be made with the data available. In other words, their mean figure is £25 million less than the detailed estimate placed before them—a reduction for which they give no specific reason;

Accepting their opinion, their mean figure of £475 millions is only £100 millions above the mean for 1913. The Committee calculated that the equivalent 1924 figure, when account is taken of higher prices and increased population, should be a mean of £650 millions, that is an increase of 73 per cent. If we eliminate the factor of increased population, it looks as if the Committee had adopted, as a measure of the higher prices, an increase of about 66 per cent. As the *Statist* wholesale index of materials shows an increase of 45 per cent, and the retail or cost of living index an increase of 75 per cent, the measure adopted by the Committee seems a reasonable one.

THE DEFICIENCY IN NATIONAL SAVINGS

It does not, however, seem to have attached any importance to the effect of the war on what I may call the age and efficiency elements in population. The decrease in efficiency arising from this cause, must, I think, be allowed some effect, and for this reason I am inclined to regard the deficiency of £175 millions in present savings as somewhat excessive. Making allowance for this fact and for the further fact mentioned by the Committee that the comparison is between a period of booming trade in 1913 and a year of depression in 1924, we have still to face a deficiency in national savings to-day of, I should say, at least £100 millions a year. Perhaps we may link to this deficiency the fall in our overseas investments. In 1913, according to the *Statist* records, our investments overseas amounted to £198 millions. If we increase this figure by 66 per cent, we get £329 millions as the measure of what our overseas investments should be, or should have been, in 1924, whereas they amounted to only £135 millions, or a deficiency of £194 millions.

In these figures we can see a striking explanation of the difficulties of shrinkage in our export trade to-day. It is, of course, true that the few years immediately preceding the war were years of abnormally high investments abroad, but it is also true that the average price level upon which we are selling our exports is extremely high—being an increase on pre-war prices of over 80 per cent.

INDUSTRY FINANCING ITSELF

From these facts two inferences may be drawn. One is that our export prices are still too high, and it is impossible to disassociate this fear from the difficulty, which we are still experiencing, of adjusting the fall in gold prices, which has been slowly taking place since we returned to the gold standard, into a like rate and form in all the costs of industry, including wages. The second conclusion I draw is that we need more capital in order to cheapen prices and so encourage more buying by foreign countries and the constant stimulation of our export trades. In this connection national savings are of considerable importance. The figures placed before the Colwyn Committee showed that the savings made through companies refraining from distributing their total profits to their shareholders were a very important proportion of the total national savings. The statistics furnished by the Board of Inland Revenue also disclosed the fact that the percentage of net profits put to reserve by companies, deducting income tax in both cases, rose from 33 per cent in 1912 to 46 per cent in 1923, and there can be little doubt that there is an increasing tendency for industry to finance itself out of its profits.

Yet, on the other hand, the Colwyn Committee concluded that there has been a decline in savings in the income tax paying classes as a whole. We have, therefore, two tendencies at work. In the corporate sphere there is an inclination to put to reserve a growing proportion of the total profits made. In the individual sphere there is a tendency to spend on current consumption a larger and larger proportion of the total income available. There can, I think, be no question that it is in the interests of the nation as a whole that national savings should not only be maintained at their present level, but increased. Without capital it will not be possible to finance the growing demand of the populations at large for a slowly improving standard of living. In the face of this need, and of the two tendencies which I have mentioned, there seems every reason to support the suggestion, which was placed before the Colwyn Committee by representatives of the great Accountants' Institutions, that some definite encouragement should be given to corporate enterprises to

devote an even larger part of their total profits to capital investments.

RESERVES FOR DEVELOPMENT PURPOSES

Sir Arthur Lowes Dickinson, representing the Institute of Chartered Accountants, with Sir John Mann for the Chartered Accountants of Scotland, and Mr. Stanhope Pitt for the Incorporated Society, laid before the Colwyn Committee suggestions favouring some measure of relief in respect of sums put to reserves for development purposes. A good many years ago, in conjunction with a number of friends, I placed this very question before successive Chancellors of the Exchequer, but, I regret to say, with little result. It is interesting, while on this subject, to mention that, in discussing the income tax problem in Germany, they have a differentiation, a very considerable differentiation, between the amount placed to reserve and the amount distributed to shareholders. The principle is already at work there, and it shows that such a scheme is possible.

Objections have been taken to these suggestions on the one ground that Limited Companies have already advantages over private firms because their reserves are not liable to super tax, so that if, in addition, some relief were given from the standard rate of income tax, it would be difficult to withhold it from the reserves of private firms. Moreover, it is argued that the practical difficulties of this proposal are very great. The solution of the problem is admittedly not easy, but the dominant fact remains that, in the coming years, with high personal taxation, the stream of individual profit savings will tend to flow more slowly. The deficit must be made good by an increase in the impersonal savings made by corporate enterprise. If that can be stimulated by some income tax relief, the national benefits which would flow therefrom would be disseminated throughout every class of the community.

The answer to Lord Colwyn's question why relief should be given to business savings alone, and withheld from the savings of professional men and others, lies solely in the administrative difficulties which such an extension of the

proposal would entail. The Committee also remarked that if company reserves had some relief, that relief would benefit mainly the industries which were already in a position to put large amounts to reserves, and would be of comparatively little avail to the companies which were making low profits. This surely overlooks the fact that the larger savings arising from such stimulation would tend to cheapen the price of capital and to increase our investments overseas, and an increase in those investments would directly and immediately benefit those companies which are making low profits because their trade has withered with the shrinkage of the amount of capital going abroad. For these reasons I am inclined to the view that the Colwyn Committee, in coming to the conclusion that the proposal was radically unsound, have been influenced too much by official administrative difficulties, and have not paid sufficient attention to the broad sweep of events indicated by the facts I have mentioned.

REPLACEMENT OF MACHINERY

Another factor needs attention in this direction. It is a common charge against British industry that it does not scrap its old machinery quickly enough. It is content with old plant when it can get new and better plant. The German and American practice is undoubtedly ahead of ours in this respect. Why? Simply because it is the habit of concerns in those countries to keep within the business a higher proportion of the total profit made, which is devoted to the maintenance of plant in the most modern and efficient form. For a time the shareholder suffers, but in the long run he benefits, and more important still, the national economy benefits. The Colwyn Committee appear to have taken the view that the company has already too many fiscal advantages in comparison with the private firm, mainly because it does not bear super tax, but when the gain of the revenue through the absence of repayment to the less wealthy shareholders is set against the loss of super tax on reserves, it is doubtful whether there is much net gain or loss to the shareholders. As the real owners of the company, it is to their net gain or loss that one must look. If some such relief as

your representatives have advocated were given to companies, the private firm could always share therein by a conversion of its business. If necessary, let the relief be confined to the larger companies. If British industry is to hold its own in the coming competitive years, big capital aggregations must be encouraged and not discouraged.

REFORM OF STAMP DUTIES

Two more matters call for urgent reform. The first concerns Stamp Duties. When existing companies combine their resources through the medium of a holding company, in order to retain the advantages of existing business units under the original companies, this essential step of forming more powerful business units is either prevented or penalised by the heavy Company Capital Duty which has to be paid on the registration of the new company. Despite the fact that no new capital may be created, and that there is merely a re-incorporation of the assets of the original companies in the new companies, through an exchange of the old shares for the new shares, and that Company Capital Duty has already been paid by the existing companies, that duty is again exigible on the same capital, expressed in a different form. But that is not all; the exchange of shares involves fresh instruments of transfer between the new company and the shareholders of the merging company, upon each of which conveyance or transfer Stamp Duty is payable. So long as these heavy penalties upon business reform exist, it is idle to expect that British industry generally will form itself into those larger units which alone can command respect in the field of international competition or alliance.

Here, again, we might learn something from Germany. The same problem arose in Germany, and the merger made in that country in steel and other large industries was listened to by the Government—recognition so far refused by the British Treasury when it has been approached on this subject. Special provision was made to enable the steel merger to take place, and special rebates and allowances were made in the Stamp Duty. Previous British Governments have already recognised the desirability of this reform. We

have two branches of industry—the railways and the mines—where relief has been given. When the railway merger was made, the railways were exempt, and under the last Act dealing with mine amalgamations passed through the House of Commons last session mining enterprises were also exempt for amalgamations under a scheme approved by the Royal Commission.

EXCHEQUER POLICY AND INDUSTRY

It is therefore quite illogical and unreasonable that the same provision should not be extended to other industries. On this whole question of taxation there is generally an Exchequer policy towards all industry in this country which really calls for very serious consideration. Surely there ought to be more recognition of the fact that the real source of revenue of any country is in proportion to the profits of industry, and, unless industry is flourishing, the source of revenue in itself is drying up. Curiously enough, this idea never seems to penetrate into the minds of the Chancellors of the Exchequer, who seem to look upon every transaction as a separate one. No one seems to sit down and think out what is the best thing to do to make British industry flourish, to get in as large profits as possible, and then to take from those large profits what is necessary to pay the taxation of the country. That is the really businesslike way of looking upon it. Under the present system the basis of revenue increasingly diminishes.

I think that, during this last ten years, there has been a fundamental error in the whole handling of public finance in this country. The Governments have not sufficiently realised that very high taxation damages industry, and that, therefore, although it may be levied at a higher rate, nevertheless if the volume of profit is smaller, the revenue the Treasury receives is really less than if there were a lower rate and better trade. I have always felt that if the Chancellor of the Exchequer had the courage to cast his bread on the water a little more and give industry a better chance by relieving it from the crushing burden of taxation and by giving it time to recover to enable it to get on its feet, we

would not be faced with the difficulties of to-day. If directly after the war the Treasury had taken a bigger, brighter and more liberal line, and recognised that a time of depression is not the time to pay off debentures in business, but only when profits are being made, we should be better off now. Therefore, it is not a time to pay off debt in huge amounts by the imposition of taxation which is ruining revenue at its source. That is not profitable finance. If we had applied ourselves to reorganising and building up business and facing the fresh difficulties, we would be in a better position to-day. I still think that this step must be taken, and that we must take a really long viewpoint. We went on imposing taxation without thinking whether the old goose would go on laying many more eggs for many years to come.

DOUBLE TAXATION

There is just one other subject to which I want to refer, which is one of very great importance, and one which has come more and more to the front recently, and to which my personal attention has been called in various propositions which I had to consider. That is the question of double taxation, which is involved by the taxation of profits on investments between nations. We are living in a time undoubtedly when it is to be wished that not merely for the sake of trade but for the sake of international peace and international comity, most industries in Europe and of the world should get more and more interested in each other. There is no doubt that the interchange of holdings between concerns all over the world produces a personal contact, a feeling of personal friendship and friendliness and trust, which has very far-reaching political results in international relations. I believe they can be extended far enough internationally so as to make wars almost impossible. The risk of wars could certainly be very much diminished, because the interchange of holdings creates in every country, through shareholders, bodies of people of importance in contact with each other, whose influences are towards peace.

What militates most strongly against such a step is this troublesome and difficult problem of double taxation—the

fact that if you invest money in a continental country that money has to pay the tax of that country, and when you bring it home you have again to pay a very heavy tax on it. It is exactly the reverse if a German or American wants to invest money in England. The League of Nations has been created, and will have the opportunity of doing something really concrete for the promotion of world peace. I think its economic branch could very well occupy itself by considering whether there could not be some form of international arrangement and agreement by which this double taxation could be avoided. The cost of any concessions so made would be relatively small in proportion to the national revenue of each country. You could have a kind of international clearing-house, which would provide much greater facilities in the exchange of national holdings. I saw the other day in the artificial silk industry the exchange of shares between Courtaulds, the Snia Viscosa and the Glanstoff, and I believe an establishment in France, and I am sure if that kind of idea could be extended it would be a benefit all round. Governments should realise that it is entirely to their advantage that the leaders of industry in all countries should begin to get as much together as possible.

INTERNATIONAL CO-OPERATION

Certainly I am convinced that this is the case in international affairs, that the more friendly people are the less danger there will be of misunderstanding and jealousies and suspicions, which are the breeding ground, actual or potential, of all international troubles. The time is propitious to open up discussion and decision on the wide fields of international co-operation in industry and finance, on the industrial side in production, exchange of information and processes, the application of improvements and the development of sales organisations, and on the financial side in the interlocking of capital and interests. With the League of Nations and the International Labour Office at Geneva as an exemplar, there is scope for a League of Industrial Affairs with its seat in London to co-ordinate the industrial affairs and achievements of the world.

CANADA AND EMPIRE POLICY

I AM very glad to have once more the opportunity, frequently accorded me by your generous hospitality, of addressing the Canadian Club in Toronto. It is not the first time by a very long way that I have had the pleasure of doing so, and I think it is now some three years since I had that privilege. My connection with the Dominion goes back now a good many years. We have done active business on this side of the water as Brunner, Mond & Co., Ltd.—the firm of which I am chairman—for over half a century. The Mond Nickel Company, which is largely interested in the development of your nickel fields in Sudbury, celebrated a short time ago its twenty-fifth anniversary. In fact, I feel myself quite an old Canuck, and therefore, perhaps, more at liberty to address you on a subject of mutual interest than those who are merely casual visitors to your shores.

I am glad to say that, during my present visit to the Dominion, I have had the opportunity of meeting many men of influence and knowledge in various parts of this vast continent, and I find a spirit of optimism and confidence, which is extremely gratifying. I find everywhere a spirit of confidence in the future prosperity of this great territory. There seems on all hands, not merely a hope, but a certainty, of the rapid growth and development of its resources. On other occasions, I have found this spirit somewhat absent, and more of a spirit of depression and lamentation. It is very natural; all of us engaged in affairs may be elated or depressed by the daily mail we find on our desks when we get to the office. Things which have looked rosy look black. Ventures we thought were going to be profitable turn out unprofitable. But if you take a long view, things look different. If you look back, as I did when I was standing

on the Plains of Abraham in Quebec, to the days of Wolfe ; if you look at the books in the archives at Ottawa concerning those early days when we first entered the Dominion, and then look upon what has been achieved since, it is a very remarkable performance on the part of the Anglo-Saxon race.

DEVELOPMENT IN ALL DIRECTIONS

Looking backward is a good lesson. To look forward is sometimes even more profitable. If I look forward, I see development in all directions, growing more rapidly than many of those in the old country have any conception of. I have sitting next to me Dr. Corless, one of the protagonists of the Pre-Cambrian formation, who, with prophetic instinct, announced the future of the great mineral resources of this Dominion. In the last few years we have seen his scientific thought being turned daily into actual practice. From Quebec to Manitoba, the discovery of mineral resources of gold, copper, zinc, is progressing at an almost bewildering rate, and although, of course, every prospect will not be a mine, nor every enterprise a dividend-payer, and a great bulk of water will undoubtedly be added to the good solid foundation, I am convinced, from what I can see, that there is the basis of a large, solid, enormous mining industry, stretching across half a continent, and we do not know yet how much farther it will go.

I was interested, when I was down in the Province of Quebec, to get information of the huge water-power development for the manufacture of aluminium. Your water-power resources make the mouth of some one coming from England, where we still have to depend on the goodwill of those who cut our coal, water with envy at your good fortune. These great rivers will flow for ever, harnessed to turbines and dynamos, and the white coal of Canada has still got before it a colossal development. And your pulp and lumber development is growing more important every day. Now you have added to these the discovery of oil in Alberta. But the greatest development of all is your great agriculture, with the continually renewed golden crop, worth in one year more than the total output of gold in the entire world. This is still, I

may say, in its infancy. The possibilities of development and increase are still far beyond the economic limits.

You have a great heritage and a great country. Sometimes, when I read the debates carried on in this Dominion I think that it is sometimes scarcely appreciated by those close to it, and depression takes the place of optimism. Little provincial problems make you forget that you are part of a great dominion, stretching across a continent. It is very natural. We are all very human, and it is a long haul from Quebec to British Columbia. But that haul will get shortened. The airplane is going to be the great uniter. I hope, when I come again, that I shall be able to fly from one coast to another. With your long distances, you will have more use for the airplane, which is becoming the taxicab of Europe.

THE NEED FOR POPULATION

Like all other countries, you have been working your way through the difficulties and depression of the post-war period, but for your consolation, I would say this: that, if you take the magnitude, the duration, of the war, the dislocation, financially and otherwise, that it produced, it is a great miracle that we have returned to normality so quickly. You are passing through it much more quickly and surely than the war-scarred countries of Europe, with its infinitely more difficult and complex industrial and financial problems and smaller resources. What you require for the development of your resources is more men—population and more population—and I only hope that that population will come, as far as possible, from the British Isles. Those are the same people, after all, who founded the Dominion in the early days, and have built up the Dominion, and the people who can be relied on to defend the Dominion against all comers.

I am not here to tell you how that is to be achieved. I was delighted to hear from your Prime Minister last night of the steps the Ontario Government is taking, in conjunction with the Dominion Government and the British Government, to bring young boys from Britain here. Youthful generations are what you want, the application of pliant minds and bodies, coming from an atmosphere which can easily embed

itself here, and which will accommodate itself to your particular climate and your local and particular customs.

Well, I have given you in a very few words a picture of how the situation strikes me, and you may well say that, after all, you know the situation better than I do. I am glad to think that, in this community and others, Governments may come and go, parties may govern or fall, but that spirit which is inherent in the British people ensures that the country will go on all the same. The British people have always had that wholesome characteristic. They have always managed to survive all and any form of Government.

THE SITUATION IN BRITAIN

You may say to me : Well, now what about the position at home ? How is the mother country weathering the difficulties through which she has been passing ? I would say to you that the stability and strength of Britain is not impaired by any temporary difficulties. I do not minimise the difficulties we have been through. We have had this year a very anxious time, when we were faced with an unprecedented situation in the general strike, and, like all things that have never happened before, no one could say when it started what the outcome would be. You all know what the outcome was. A confident and disciplined people destroyed in an incredibly short space of time the paralysis the general strike was intended to bring about, and the assault of Moscow on the liberties of the British people was a complete failure. Why ? Not merely because the Government, foreseeing what was going to happen, had made admirable preparations, but, still more, because a free people would not be dictated to by one section of that people ; and people who had broken the tyranny of monarchs in the past are not going to submit to the tyranny of the proletariat in 1926.

The people of the educated classes, the people of the middle classes, the men in the offices, behind the counter, behind the bar, the great middle-class element which showed that, when it was required, it could shoulder the burden, men and women—there were no quitters—these were the people who tackled new jobs with a good-humoured laugh

and a joke. Undergraduates of universities worked as porters, barristers drove motor-omnibuses, architects drove motor-lorries, girls drove anything there was and took anybody about, Hyde Park was turned into a commissariat park. The distribution of food throughout Great Britain was mapped out, and no place suffered want. It was a very great achievement, an achievement Britons in every part of the world have reason to be proud of. We never fired a shot. Nobody was killed—a remarkable thing, if you think of the millions of men out on strike and the millions of men doing their work. I do not know any other country in the world where you could have seen that phenomenon, and where they could have escaped bloodshed or any form of civil war. It was a tribute to the good-nature and common-sense of the British people. And the most humorous things happened. Striking pickets had to work, and the police and the strikers were exchanging cigarettes. It was a very good-humoured performance. Nor by any manner of means did the whole of the working classes endorse this foolish policy, when they were asked to cease work. I, myself, am chairman of two or three large industrial concerns, in South Wales, in the Midlands, and on the East Coast, and the number of people on our pay-roll is from 20,000 to 25,000, and I do not think twenty of them left work. They went on quietly doing their work, and declined entirely to obey the orders of the agitators; and when I tell you that a large number of these men were Union workers, you will understand the sturdy and independent spirit they showed.

THE COAL DISPUTE

We passed through that difficulty, and fell into a coal strike. We may say: How about the coal strike? A coal strike is a serious thing. As chairman of a large Anthracite Company in South Wales, I regret that I have to say that, this year, we shall not be able to help feed your furnaces as we did last year. But I still have hope that this long-drawn-out and extremely foolish struggle will be concluded at a not very distant date. It will not paralyse the national life. Many substitutes have been found in other fields, and

the importation of foreign coal has kept the large bulk of our factories going. The attempt to blackmail the British nation into a coal subsidy has failed. The British people will not submit to that form of dictation. There was the opportunity of a settlement many weeks ago, and if the miners' leaders had been reasonable people ; if they had shown an accommodating spirit, and been prepared to face economic facts, there were plenty of us anxious and willing to make an honourable and fair settlement. When that is achieved, you will see an increasing wave of development of trade, which was beginning before the strike trouble took place. You will see that begin once more, with a marked flow and a marked movement. The tendency of trade in Britain is certainly on the up-grade, and I feel confident myself that, when the coal strike is over, there will be a marked reaction throughout all industries towards improved trade and better times.

THE PROGRESS OF INDUSTRY

Some lady I met at dinner in this city the other night said to me in a hopeful tone : " Well, I suppose, at any rate, that, when British manufacturers cease to manufacture, you will still exist as the bankers of the world ? " I looked at her with some astonishment. As an English manufacturer all my life, it had never occurred to me that manufacturing was going to cease. The chief anxiety we have is trying to gauge and finance the rapid increase of our plants. We are going into more new manufactures every day, and that is not only true of the great firm of which I am chairman, and which has spent \$25,000,000 in the last few years on plants for making artificial fertilisers by synthetic processes, but also of dozens of other firms headed by progressive men in the old country. We are not in the habit of boosting ourselves. We really do not consider we are always called on to disclose all our activities to the outside world. In fact, we sometimes like to keep a good many to ourselves, and, therefore, people who do not know much about what is going on get the impression that nothing is going on. When you consider the development of artificial silk and linen, and trace the history of the Courtauld firm, with a share capital of \$300,000,000,

built up in a few years—where among industries in any other land can you show better progress or similar returns? And that is only one instance. There are many others. Rest assured that the progress of industry in England is no new thing. After all, we were the leaders in industry, the creators of the steam engine, and the forerunners in industry in many other directions, and will always remain so. And the spirit of development and of research has been more marked in recent years, because the war provoked new inventions, new processes. Young men had to learn to shoulder great responsibilities quickly, and in this age the younger generation is coming into its own in the industrial life of Great Britain. You can rely on these young men to show their ability, when they are given positions of responsibility, as they did in the trenches, and they will not fail or weaken. Do not be misled by the superficial, by the writer of the society columns. They feature many things which many of us object to, and which the great mass of people in the country reject. They get entirely undue publicity, but there are plenty of young men to-day in the House of Commons, in the factories, in the banks and in the merchants' rooms who are not wasting their time in frivolity, in vice, in the terribly fantastic kind of childishness that does go on in some places. They have great traditions, and they will carry them on. Speaking from the point of view of an old member of the House of Commons—I have been there now for twenty years—I am delighted with the young generation coming in, many of them successors of the old generation, like the Marquis of Hartington, heir of the Duke of Devonshire who held high position in Canada, and who is one of those who is devoting himself with earnest sincerity to the public life of the country. So long as we have such men, although we have difficulties we shall get over them.

THE FUTURE OF THE EMPIRE

This is all really preliminary to the subject I want to say a few words about. You may say: Why this long preliminary? But I tell you it is deliberate. I want to say a few words to you about my conception of the future of the

Empire. I have, therefore, taken a short and rapid survey of the position of this Dominion and of the Motherland, because, unless we are sure of the future of the Dominion and of the Motherland, there is no point in discussing the future of the Empire.

It is as large and difficult a subject as ever fell to any body of men to consider, as complicated a task and as vital a question as was ever presented at any time in history to any race, and yet on its solution will depend the future of a great part of the destiny of the English-speaking people, the orientation of a huge volume of the world's trade, the security and progress of millions of people of all races and all creeds, and fundamentally the rapidity and stability of the progress of that vast tract of territory which flies the British flag. I make no apology for placing this problem before you. I have no doubt that the Dominion of Canada and its inhabitants, one of the greatest and most potent forces within the British Commonwealth of Nations, intends to remain permanently in the future as in the past within this political and economic complex, in which it will play a continually greater and more important part.

CANADA AND THE UNITED STATES

It is only natural that, living as you do on this continent side by side with our American friends, you are sometimes overwhelmed with the size and importance of that undoubtedly great economic complex, the United States. But, gentlemen, compared with the British Empire the United States is a trifling proposition.

But the time is arriving when expressions of loyalty and comradeship of however genuine a character, sincere and deeply felt as they undoubtedly are, will not suffice to hold us together. We shall be compelled to frame a policy of more far-reaching and concrete character. Those who have explored the subject have too often approached it from the constitutional political point of view. Many ingenious minds have endeavoured to construct merely constitutions. I have seen dozens of constitutions for the Empire framed in the studies of studious men who had no contact with the

practical realities of life. Many have endeavoured to reconcile the natural independence of free communities within the Empire with some special organisation to control them all, but no one has succeeded, or is likely to succeed on these lines. Diversity of interests, difficulties of distance, the natural desire of the people to manage their own affairs in their own way and to look with suspicion on surrendering any part of those liberties, impede progress along such a path, but there is another line of attack to which I would like to draw your serious attention.

THE ECONOMIC TREND OF THE WORLD

Any one who studies the economic trend of the world of the present day has borne in on him, both in private and public affairs, the obvious fact of continuously growing concentration of interests and of industry. Economic units become larger and larger. Industries become more and more operated as units. We see to-day the world shaping itself into certain definite economic communities. The enormous wealth, magnitude and resources of the United States make a great economic unit with ever-increasing power. And since the war the great accretion of gold reserves at Washington has naturally hastened that position. In Europe they are seriously considering forming a counterpoise. This is being evidenced by combinations of the kind recently formed between the German Steel Trust and the Belgian and French Iron and Steel industry, and negotiations or accomplished facts of similar combinations, in potash and chemical industries—and many other directions.

THE UNITED ECONOMIC STATES OF EUROPE

There is no doubt that a large section of the business men on the continent of Europe are considering whether some form of economic union, such as exists to-day in the United States of America, with free trade within the union and with protection against those outside, will not become an absolute necessity for the economic continuance of European industries. The whole trend of European politics

as instanced at Locarno and Geneva, under the new treaties and steps of the League of Nations, is to bring closer and closer together those whom the Great War seemed to divide for ever, and to compel territories which were torn apart by peace treaties to become economically re-united. I must not be understood to speak of the immediate future, but I am speaking of the trend of events which are casting their shadows before and which may arrive sooner than any of us anticipate. Economic facts are stubborn things, which, while they may be obscured or diverted by national or political sentiment, must ultimately carry the day. The question then arises, and will arise for Great Britain, which, after all, in spite of its powerful industrial position, is only one State of 45,000,000 inhabitants, where does it stand between combinations such as those I have outlined—with the United States, and, let us call it, the United Economic States of Europe? Great Britain will be asked: Where are you coming in? Where are you going to associate yourself? To what group are you going to belong, if any? That will be a vital question and a turning point in the history of Britain, in the history of the British Empire, and the race throughout the world.

BRITAIN—THE PIVOT OF A GREAT EMPIRE

There is a tendency among many thinkers in our country to regard Britain as a European power, mainly interested in European commercial relations and European affairs. There is a tendency in that direction and I have endeavoured to counteract it, for I consider it a dangerous tendency. I look on Britain as the pivot of a great Empire, which in itself is a greater economic force than either of the two other combinations.

I think our eyes ought to be turned over the highways of the seas towards our Dominions that the ocean unites rather than divides, and not to the land across the Channel. During the late war the then Prime Minister, the present Lord Oxford and Asquith, set up a Committee under the presidency of the late Lord Balfour of Burleigh to investigate problems of British trade after the war. I was a member of

that Committee, and during its prolonged labours there was one indelible impression left on my mind, and that was that the British Empire contained within itself almost every known or required material, food, and every necessity for development that it required ; that it embraced a larger part of the world's surface more varied in climate, more rich in resources and products, and with a larger aggregate population than any other economic unit that could be created.

It is an absolute fact for anybody who likes to study imperial resources that we command not merely mineral resources, but that we control, almost exclusively, through our Dominions and Colonies, some of the most important and vital materials. I need only refer to the nickel fields of Canada, the rubber of the Malay Peninsula, the tin of the British Empire. We have potentialities to stagger humanity, to serve for generations, for centuries.

THE EMPIRE AS AN ECONOMIC WHOLE

If it were only possible to handle this vast complex, with different dominions, colonies, protectorates, as one economic whole and develop them to the best advantage of all, we should be in a position to obtain for all the members of the combination terms and conditions in the world's markets, modifications and amendments of tariff schedules, and develop a prosperity far exceeding anything the world has ever seen. If we could only look at the Empire as a whole and not in sections ; if we could visualise it as one economic unit with a policy whereby there could be free intercourse of the Empire's goods within its own territories, as America has from New York to San Francisco, as you have from Quebec to Vancouver, with the necessary protection and self-protection that is found necessary against those outside, we should form that third group which is obviously called for to counterbalance the other two of which I have spoken.

You may say that such a project is too vast and too difficult ; that you are more interested in the development of some section of your Dominion and the establishment of some special development within your own borders. You may see, as I have done, the difficulties of reconciling those

living far apart with temporary sacrifices for ultimate gain. No one is more aware than I am of the difficulties, but I say these difficulties will have to be solved if ultimately the Empire is to survive. Not merely the Empire but the constituent parts thereof together should be strong enough not merely to hold our own but to excel in every possible combination. Separate and different economic units mutually excluding each other, endeavouring to make their own arrangements separately with only that bargaining power that each one individually possesses, must obviously be much weaker than the whole conducting collective bargaining.

I hope you will not resent my saying so to you who occupy half a continent, that, large and enormous as this area is, you are only after all a small part of the British Empire. Great Britain is only a small part of the Empire. Australia is only a small part. India is a small part when compared with the Empire as a whole, and I feel that strongly.

STUDY BIG MAPS

The late Marquis of Salisbury, one of Britain's greatest statesmen, then Foreign Secretary, when some question between Britain and another country had arisen, advised those engaged in the controversy to study big maps. I would advise every citizen of the Empire to study big maps ; not to allow the pressure of our local circumstances to obscure the vision of the whole ; not to shrink back from any problem because of its magnitude, nor to despair of its solution because of its difficulty.

I want to ask you to join with me in forming some conception of the economic strength and unity that could be built up by the whole Empire. The question is one of extreme difficulty. Nobody is more aware of it than I am. You cannot suddenly dislocate existing manufactures. You cannot suddenly destroy an industry created under one fiscal system or another, but unless you have some ideal, some object in view within the Empire, what is going to happen ? Crucial questions arise, and cutting of the painter and the parting of the ways will be talked about by many who neither know nor care about the Empire. But it would be foolish

to ask you to go into details respecting the great idea I have outlined. But I would say this: When we entered on the Great War no one foresaw its duration, the magnitude of its operations, the difficulties we should have to encounter. If they had they would have shrunk with horror from what seemed to be an impossible task.

AN EMPIRE UNITED IN PEACE AND WAR

But the British race proved itself capable of meeting every contingency, and emerged victoriously from its greatest trial. I see difficulties and obstacles. I see those who can see no further than their own home town, no further than their own province. Many difficulties exist, yet they are not insurmountable. You will never achieve a great object, you will never carry through a great purpose, if you begin with difficulties and begin to consider all the objections to the policy, before you accept the principle. If you accept the ideal of a self-contained, united, economic British Empire, with the constituent parts standing shoulder to shoulder, working together, using all its force and might in a concentrated instead of a sectional manner; if you conceive that and hold it firmly in your mind, I am certain the difficulties will be overcome step by step, and that the citizens of the British Empire who fought together in the trenches, like the Canadian Division I saw at Vimy Ridge, next to the British Division, with the New Zealanders not far off, with no tariffs between them, with no distinctions between them, will succeed in economically uniting their forces again. There was no division among the soldiers. In beautiful cemeteries, one of which I saw recently in France, they are sleeping side by side. They fought not to divide but to unite; not to endanger but to perpetuate the heritage that has been created throughout the centuries, the tragic centuries, the suffering centuries of endeavour; a heritage that was consummated with their blood, and which this generation should hand to future generations not impaired, but more stable, more strong, more firm to serve its great purpose as the greatest civilising force the world has ever known.

THE BRITISH EMPIRE AS AN ECONOMIC UNIT

I MAKE no apology for asking you to consider with me this afternoon what is, in my view, the most vital problem to the future of the national and economic welfare of the British race. In spite of the serious problem of Trades Union Law which we are discussing on the floor of the House—the importance of which it is difficult to exaggerate—I do not hesitate to say that it is even more imperative for us to consider the creation of markets for the outlet of our industrial products.

After all, our future stability rests upon promoting the economic prosperity of the Empire. The ultimate position of the British people in relation to the rest of the world must depend more upon the proper organisation of the infinite resources which the Empire commands, than upon any legislation to control or regulate labour conditions in this country. In a prosperous and contented country, in a country where employment is good, where labour conditions are good, where wages can be permanently maintained, and in a country where the possibility of getting work can be demonstrated and where a better standard of living can certainly be predicted, the dangers which threaten our modern industrial community, either by the revolutionary character of Bolshevik propaganda, or by attempts at uneconomic restrictions in output by mistaken trade union leaders, will tend to disappear.

That is borne out by the conditions in the United States to-day, where they are building up a labour prosperity and a general prosperity of which we have little conception ; where high wages have become a standard which everybody agrees to, and high production has become an object which everybody endeavours to achieve. They have succeeded to an

astounding extent in really throwing out of their economic existence so many of those troublesome questions which are leading to our spending our time in the next few days on legislation in this House, and still more time on propaganda in the country.

BRITAIN OVER-INDUSTRIALISED

If you regard our particular position in Great Britain, with its highly industrialised condition, its intense population, its complex finance and commerce, at the present time, and if you take the widest view of the economic tendencies and thought of the world, the fact that Great Britain is more dependent on markets beyond its shores than any other great country at the present time, you come to the conclusion that Britain therefore must create a wider and more stable fabric than that of obtaining its raw materials and foodstuffs in exchange for its manufactured goods.

There is no doubt, to use a common expression, that we are over-industrialised in these islands, and that we have lost the suitable balance between the production of agriculture and industry, which still exists, to a much greater extent than here, in France, Germany and most of the continental countries. I do not think it is possible to redress this balance purely by the development of British agriculture, much as it can be increased ; that alone would not provide the balance which is required. But if you stop thinking in the terms of this island and begin thinking in the terms of our Empire ; if you give up looking at locality and begin to look at the world, this problem which is so troubling to the minds of many of our people becomes one fairly easy of solution.

GROWTH OF GREATER ECONOMIC UNITS

There can be no denial that there is, in modern economic tendencies, a growth, both in private industry and in public and economic thought, of the idea of the creation of greater economic units, both industrially and internationally, and I would add imperially. That tendency, which we all witness,

and in which some of us have been taking part recently, is one which, to my mind, it is little use criticising and little use disliking. It is something which is happening and which is bound to continue ; which we have to accept and which we have to see how to fit into our economic life, in industry, in business and imperially.

I have only recently returned from a trip on the continent of Europe, and during a visit to three capitals I came in contact with a large number of leading men in business and economics in Germany, in Belgium and in France. I was surprised at the almost complete unanimity with which the idea of the formation of an economic union of Europe in order to preserve European industry has taken root in all these countries among what I might call men whose position is such that they really are great leaders of thought and industry in their countries. It was quite remarkable, and I should not have believed it if I had not come so closely into contact with it. The idea that you must form some economic union of European countries, some form of joint action in industry, some form of joint action in taxation, in tariffs, and even further steps than that, in order to enable Europe to continue to go on existing against the competition of the continent of North America, is becoming almost axiomatic, almost a passionate faith in the bosoms of those who a short time ago would have scouted the very idea that such a step was possible or even advisable.

THE ADVANTAGE OF THE UNITED STATES

The overwhelming prosperity and development in that great economic unit, the United States of America, is becoming yearly more manifest since the conclusion of the war. The war has, of course, brought into strong relief a process which those of us who have been watching these operations on the spot and here knew was coming ; it has brought them into relief rather more abruptly. It has also led people to study more closely some of the reasons why the prosperity of the United States, instead of, as some people predicted, collapsing, seems to progress from year to year on a rising scale ; and no sound observer of that country that I have

met can predict any reason why the prosperity should diminish or why it should not continue to increase.

The advantages which the United States have of food-stuffs and raw material, freedom of tariff barriers over the largest area, industrially and agriculturally, almost in the world, the advantages of a stable exchange, a single language and a single currency, has compelled those who think seriously and have to operate practically in the markets of the world to-day to realise the handicap of relatively small divisions. America is a continent whose trade consists practically to the extent of 99 per cent of exchange amongst its members, and is little dependent upon the whims, fashions or disturbances of other countries. The tastes and fashions of one people only have to be regarded. An advertisement issued in New York will reach to the Pacific, and will sell the same pair of boots in Milwaukee as it can on the East Coast and the West Coast. All who know anything about industrial and commercial propaganda will realise the enormous advantage of having one advertising staff which will serve all purposes, one advertisement which will meet all needs, and one article which everybody can buy. I do not know that we can ever equal that, but at any rate some approach can be made towards it. It is compelling those on the continent of Europe, to whom nationalism has been the breath of life, to realise it is not a question of choice, but that it becomes a question of either existence or non-existence.

BRITAIN AND THE EMPIRE

Consider these two pictures—on one side the great American economic union, on the other side the great European economic union. What is the position of Britain going to be? That is the real question to which we have to address ourselves; it is useless people trying to burke the question because the answer may be difficult or unpleasant. There are at present two great world tendencies in operation; one endeavours to couple Britain with the European complex, or to leave Britain in a state of isolation; the proposition which I advocate would lead to the formation of an Imperial complex.

There is no room for error. I have been in contact with a large number of influential and able people who are very convinced on this point, and to whom Geneva has become the Mecca of the world. To them the oceans mean nothing, the Dominions mean nothing, the Empire means nothing. They think of everything in terms of what might be called European thought. Instinctively and unconsciously they recoil from the idea which I have put forward—namely, that we should form an Empire economic unit.

There is an urgency about the matter. These other tendencies are forcing themselves to the front more and more, and unless there is a body to plant the idea of the Empire economic unit that cause will go by default. I am convinced that if we allow that to happen it will not be many generations before the British Empire as we know it to-day will cease to exist. Its constituent parts will be forced economically into unions with other countries and complexes, whether wishful or not; sentiment will not be able to stay for ever the course of the flood-tide of economic pressure. That would be one of the greatest disasters to the British-speaking people, and one of the greatest disasters to civilisation. It is therefore imperative that we should do everything in our power to prevent that happening.

AREA AND POPULATION

It would appear obvious, in spite of the industrial strength of Britain, that its position as an economic unit, between the United States of America and the economic unit of Europe, would be difficult and precarious. If you visualise it merely in this way, both as regards resources and population, it would obviously be a relatively small concern, but if you visualise it as I do, namely, the British Empire itself as an economic whole, the picture immediately changes. I do not want to trouble you with many figures, but I think a few are essential in order to get a true view of the whole position :

I. Area of <i>United States</i>	. . . . .	3,026,789 square miles
Population	. . . . .	105,910,620
		or 35 to the square mile

2. Area of <i>Europe, excluding Britain</i>	3,650,000 square miles
Population	427,000,000
or 117 to the square mile	
3. Area of <i>Britain and Northern Ireland</i>	88,000 square miles
Population	47,157,958
or 536 to the square mile	
4. Area of <i>British Empire</i>	13,909,782 square miles
Population	450,094,000
or 33 to the square mile	

The area of all U.S.A. territory is 3,743,000 square miles—one-quarter that of the British Empire. The population of all U.S.A. subjects is 117,859,495—a little more than one-quarter that of the British Empire.

The population of Europe (excluding Britain) is 427,000,000—somewhat less than that of the British Empire.

Consider the area of the Empire; consider the possibilities; consider the resources, and you will realise what an untenanted part of the world it is, how little in touch it has been, how unknown and undiscovered a great part of it is. If you consider its vast potentialities, it must become obvious, as a simple business proposition, that as an asset it far exceeds in value either of the other economic units I have mentioned. I want to stress that, because I do not think that people pay sufficient attention to what I call potentialities. To-day, looking forward in business affairs one does not look to the mere immediate results in the next year or two; one looks forward many years ahead to the building up of great industries and great markets in the future.

RESOURCES AND POTENTIALITIES

Where else are there such markets, such potentialities, or such possibilities as in the British Empire? What does that vast complex control? The British Empire already controls 27 per cent of the world's wheat production, 66 per cent of the world's rice production, 53 per cent of the world population of cattle and 51 per cent of the world population of sheep. The British Empire already produces 69 per cent of the world's gold, 42 per cent of the world's tin, 88 per cent of the

world's nickel, 15 per cent of the world's silver, 30 per cent of the world's zinc, and 23 per cent of the world's lead. It already controls 77 per cent of the world's wool supply, and 87 per cent of the world's rubber supply. And there are vast undeveloped sources of supply of these and other essential raw materials and foodstuffs.

These are portentous figures, and even more important facts. If I was put at the head of a great Corporation and given the power to handle potentialities of that kind, with the power of control of supplies of that magnitude in the markets of the world, I venture to say that I could obtain for the British Empire and for those living within its boundaries and within its constituent parts such a trade as no other unit in the world could hope to achieve. What an enthralling problem to handle—export and import, raw materials, metals and necessities for the manufacturing industries of other countries. How are they being handled now? The truth of the matter is that they are not being handled at all. At the present time no organisation exists which even attempts to co-ordinate these manifold resources systematically to bring them into closer contact among Empire producers and consumers, to utilise the vast volume of trade, and to obtain for members of the Empire any advantages in the commercial treaties of the world. In fact, there is no united front whatsoever, in theory or practice, and there is a grave danger of each unit obtaining not a maximum but a minimum benefit from its resources and efforts.

UNITY OR DISRUPTION?

I have seen that in the kind of negotiations which go on, for example, between the Dominion of Canada and the United States. Bartering and bargaining go on about the resources of Canada which, for instance in pulp and lumber, are by no means negligible. What would be the bargaining power of the united front? It would be a very different atmosphere and a very different reception when the knocking was heard on the doors of Washington. It would not be so much a question of asking for favours but stating what would be acceptable.

I view with grave apprehension the tendency developing among the various units of the Empire, apparently large in themselves, but even small when regarded in the light of the economic units I have outlined, in not acting as a unified body but separated in an attempt for each to develop without any regard to the whole. Local patriotisms, local politics, local self-interests, assisted by the wide distances which separate, unfortunately, different parts of our wide-flung Empire, all have a tendency in this direction, which, if not corrected in time, may cause us to lose a great structure of self-governing brotherhoods, whose common existence is of infinite importance to the future continuance of the Anglo-Saxon race, and of the gravest import to the development of all that seems best in our modern civilisation. Powerful as sentiment is on race and language, without a close economic nexus, the creation of a tendency of separation rather than of unification is apt to grow in the development of each part.

EMPIRE TRADE

As far as Great Britain is concerned, it is important to know the volume of trade passing between Great Britain and its Dominions, and the Dominions among each other. I say that because ever since the colonial idea, or the Dominion or Empire idea, was promulgated by Mr. Chamberlain in 1902, the tendency which he foresaw, with great statesmanship, has continually developed and grown, and the figures to-day are really much more favourable than they were at the time he started his campaign.

BRITISH EXPORTS, 1913

	Produce and Manufactures.	Articles mainly or wholly manufactured.
	(Millions.)	(Millions.)
Total Exports	£525	£411
British Possessions took	205	180
Percentage taken by British Possessions .	39 per cent	43½ per cent

GREAT BRITAIN—IMPORTS, 1913

	Merchandise, Food, Drink and Tobacco.	Raw Materials.	Articles wholly or mainly manu- factured.
	(Millions.)	(Millions.)	(Millions.)
Total Imports	£290	£281	£193
Imports from British Posses- sions, including Egypt . .	76	111	23
Percentage from British Pos- sessions, including Egypt .	26¼ per cent	39½ per cent	12 per cent

Out of the total imports of £768,000,000 the British Possessions supplied £212,000,000, or 27·6 per cent.

Turn next to the figures of British trade in the years after the war :

TOTAL EXPORTS (IN MILLIONS) FROM THE UNITED KINGDOM

Year.	Total.	To British Overseas Dominions, Pro- tectorates, etc.	Per cent of Dominions to Total.
1920	£1334	£550	41¼ per cent
1921	703	345	49½ "
1922	720	304	42¼ "
1923	767	314	41 "
1924	801	319	40 "

TOTAL IMPORTS (IN MILLIONS) INTO THE UNITED KINGDOM

Year.	Total.	From British Overseas Dominions, Pro- tectorates, etc.	Per cent of Dominions to Total.
1920	£1933	£426	22 per cent
1921	1086	319	29¼ "
1922	1003	311	31 "
1923	1096	338	31 "
1924	1277	339	26½ "

It will be seen that the Dominions take nearly half of Britain's total exports, while Britain only imports less than one-third of her requirements from the Dominions. There

is here, then, a great field for the development of Empire trade.

If we were to study the present position of Imperial trade, it would be seen that throughout the post-war years, as well as in 1913, more than half the total exports of the Dominions are Imperial exports, and more than half the imports of the Dominions are Imperial imports, and it will also be seen what a large body of the trade done by the Empire with foreign countries could be kept within the Empire on its organisation as an economic unit.

TOTAL IMPORTS (IN MILLIONS) TO ALL DOMINIONS, ETC.

Year.	Exports from U.K.	From British Overseas Dominions, Protectorates, etc.	From Foreign Countries.	Total.
1913	£243	£89	£244	£576
1920	550	238	597	1385
1921	345	154	391	890
1922	304	124	330	758
1923	314	146	373	833
1924	319	175	408	902

TOTAL EXPORTS (IN MILLIONS) FROM ALL DOMINIONS, ETC.

Year.	To the U.K.	To British Overseas Dominions, Protectorates, etc.	To Foreign Countries.	Total.
1913	£238	£88	£248	£574
1920	426	216	611	1253
1921	319	140	343	802
1922	311	132	393	836
1923	338	145	461	944
1924	339	168	488	995

The tendency of the growth of inter-Imperial trade is still worth most serious attention, and shows more and more the dependence of British industries on the development of Imperial markets. The growth of inter-Imperial trade is one of the most satisfactory signs of the present time.

THE PROBLEM IN BRIEF

This then is the picture which confronts Britain; a population of 45 millions within an area of 88,000 square miles. If Britain wants to keep that population within its shores, it must depend upon overseas markets for exchanging its manufactured goods. It has to watch great economic units being formed; on the one hand, the tendencies towards free trade areas existing in America being transferred to the United States; on the other, the closer working together of the continental industries and continental powers. It must therefore ask itself whether it can stand alone, whether it shall stand by the Empire, or whether it shall be one of the satellites of the European complex. The question can admit of only one answer.

THE DIFFICULTIES

While it is easy to point out the ideals and the necessity of a change of policy, it is useless to disguise the complexity and difficulty of the problem which I am asking you to face. The fact that the problem is complex and difficult is no reason whatsoever why it should not be tackled. When in August 1914 Sir Edward Grey made his momentous speech in the House of Commons which practically announced our entry into a European war of the first magnitude, did any of the members realise what was involved? Did any one realise the difficulties which had to be faced? Did any one realise the calls which would be made on Britain and the Empire? No one did. But every one of the problems which arose, insuperable as they appeared at times, hopeless as they appeared at times, were solved one by one until the Empire fought through to victory. If anybody had told us in July 1914 that we were going to mobilise an army of five million men, we should have laughed at them, and said it was impossible. If anybody had told us we were going to incur a debt of £8000 millions, the whole finance of the city would have looked upon that person as a lunatic. If anybody had told us of the hundreds of thousands of men we should transport across the seas, he would have been looked

upon as a dreamer. And yet all these things were done ; and so all the difficulties in this problem too would be overcome if somebody would only make a start.

Consider briefly one or two of the difficulties which appear. This country has grown up, I am not going to argue why, or whether rightly or wrongly, on a basis of free imports ; it has developed its whole economic life on that structure. On the other hand, the Dominions have grown up on a system of protective tariffs. While we have allowed agriculture to become secondary to our industries, the Dominions are endeavouring, in some respects, to develop their industry at the expense of their agriculture. Where we should be mutually complementary we are mutually antagonistic. Artificial divisions are hampering the export of our manufactured goods to the Dominions and their exchange of raw materials and foodstuffs to us. They are endeavouring to create, in many cases, highly artificial, instead of economic, industries. On the other hand, there can be no doubt that a sudden reversal of such an economic policy could not be allowed to take place, even if it were agreed upon, because it would cause dislocation to such an extent as would make parties hesitate to take such a step, because they would be influenced by the immediate results instead of by the benefit of the ultimate object.

IMPERIAL FREE TRADE

The obvious ideal is Imperial Free Trade, free exchange, without let or hindrance, of all products of the Empire within the Empire. That would put us in the same position as the United States is in to-day. Each part of the Empire would produce that which it could produce best and cheapest, and exchange and get the highest benefit in that way through most economic production and the best results of exchange of goods. There is no barrier between New York and San Francisco, just as in the Dominion of Canada there is no tariff barrier between Montreal and Vancouver. It is the same type of ideal which those advocating the Economic Union of Europe wish to bring about.

You cannot uproot violently present existing systems,

but you can modify them in many respects, and also endeavour to shape their future development. An Imperial Trade Commission, of an advisory character, which could examine and report on the effect of tariff and other legislative changes, such as commercial treaties, as affecting each part of the Empire, endeavouring to look to the interests of the whole rather than of the part, would render great service by bringing to the consciousness of those responsible in the various Governments of the Dominions the repercussions of any steps they are about to take ; and the setting up of the idea of a joint Imperial Tariff against the goods and produce of those outside the Empire Economic Union, in the development of special advantages in every possible direction to those comprised within this body, would give strength and force to those who wish to extend the ideal of inter-Imperial free trade.

AN EMPIRE ECONOMIC UNION

I am certain from what I know of the Dominion statesmen that they are sincerely anxious for Empire development, and I think very often it is found that steps are taken the bearings of which, outside their own particular country, are not at all appreciated or understood. If such a body as an Imperial Trade Commission were set up, with a centre in London, a permanent body which would merely analyse, consider and report, a great step forward would be made ; and the next step would be an Imperial tariff against the goods and produce of those outside the Empire Economic Union. To set up an Empire tariff does not seem to me to be an impossible step. It would in itself be the first big step forward. It would give to every one inside the Empire Economic Union the feeling of belonging to a common economic complex, and that I think is vital if the scheme is to be carried on.

It is quite true that will involve a considerable departure by Great Britain from its traditional fiscal policy ; it might lead to new methods, not necessarily of a tariff character, for the stimulation of Imperial, and possibly home, agricultural products. I am quite prepared to face that. After all, fiscal systems and economic policies exist for the benefit and development of countries ; countries do not exist for

the benefit of economic theories. If you come to the conclusion that the maintenance of the British Empire, that the keeping together of the English-speaking people in the self-governing Dominions and the mother country is of the utmost importance to the world, I think it would be mere pedantry to allow an economic theory of free exchange of goods to interfere with the much more vital and important problem of the British Empire. For myself, and for a great many more, I feel sure that we are prepared to sacrifice some of our economic ideas on the altar of Imperial unity.

SOME SUGGESTED METHODS

It would take too long to go into details and methods of such a vast problem, but it is obvious that tariffs are not the only means of dealing with such questions. The British Empire has a great control of raw materials. The control of important raw materials might enable you, by means of export duties for instance, to give substantial advantages to those within the British Empire. Raw materials are quite as important in the world to-day, and their possession creates powers quite as great as the erection of tariff barriers. The idea of utilising control of raw materials for the benefit of those within the British Empire in a primary sense, is perhaps a new one. Until the Stephenson scheme was started in the great depression in the rubber industry, it was little realised how much power could be acquired by having some kind of control of a raw material in the world. To give an advantage owing to the control of raw materials to those belonging to your particular economic complex is well worthy of careful consideration, and might give much greater advantages than merely putting up and pulling down tariff rates and duties.

Just as in great industrial mergers you may determine where and how you will manufacture certain products, in what place the most economical production can be effected, how much you gain by concentration in large units, so the same order of ideas can be implied with even greater problems of Imperial productions. And, just as it is found necessary by means of compensations, payments and rearrangements,

to achieve those fields of ordinary business, so some great Imperial body charged with these considerations could form a system of compensation pools, consider methods of quotas of production, and encourage and stimulate the creation of industries in the places best situated for them, with benefit to the whole and without detriment to any part.

The quota is a good plan. But why only a quota on British films? Why not a quota on British materials in all directions? Examined, the quota idea might become a very powerful instrument to further the use both of home and Imperial products as against products produced by those outside the magic circle. It is certainly a weapon which we are now engaged in forging in a relatively unimportant industry which might have much wider repercussions.

Then there is a step further. If you want people to give up anything they have, if you want people to cease operating in the direction in which they are operating in the ordinary course of business, you have to find some reason why they should do so, you have to give them some interest. You might come to the conclusion that certain industries were so uneconomic in parts of the Empire that we would be better without them. You could not expect those who created them, or those engaged in them, merely to accept the execution. But just as it is common practice in large industrial mergers to compensate those who suffer from the concentration of factories by the proposed scrapping of others, so an Empire compensating pool, which would not be a very large proposal, would help over a great many difficulties.

A suggestion was made to us by a very important statesman from Australia. He said, "Do not ask us to give up the industries we have now; do not say to us we must never develop our industries. Cannot we arrange some quota basis on which we and you should develop as far as those industries are concerned?" I throw out these suggestions to show that this problem is not exhausted either by those who think it can be solved by just having preference and tariffs, or by those who say that there is no other way of helping the Empire and therefore reject the proposals altogether. There are endless numbers of varied methods by which people who are not working together might work together in all

these problems, whether they arise in business or politics. It is the will to do that matters. If that will to do is once created I am certain that the methods can be found. We cannot jump suddenly from one end to another. The process must of necessity be a slow one. It will have to be an educative one. But it is worth trying. It is really a holy duty upon us at the present time. It is impossible to imagine that we are just going to sit down in a sapient kind of way and see the great structure which generations and centuries of sacrifice and endeavour have created crumble away in our very hands.

THE IMPOSITION OF A SACRED DUTY

I have been accused of giving up the free trade ideas to which I have, economically, devoted the greatest part of my political life. On this I can only say that in this great matter of Empire there seem to me considerations of a much more far-reaching character than those of pure economics. The war, if it proved anything, surely must have convinced the most unthinking of the enormous value of the British Empire in the great world crisis. We cannot be indifferent to the vast importance of being able to control, as we were, the essential foodstuffs and products required not only by ourselves but to a very large extent by our allies. No one who had any experience could doubt what the co-operation, both military and civil, of the great Dominions and other parts of the Empire meant to us during those critical four years.

It may be said we should not think any more in terms of war for the future. Gladly as one would accept such a doctrine ; happy as one would be to think that the recurrence of a great war was beyond the bounds of possibility ; I, for one, would comfort myself in framing policies on this assumption, but the possibility of a world cataclysm cannot be said, by any one who takes an impartial, cold-blooded view of the situation of the world, to be eliminated. We all hope it may have been diminished, but none of us can be certain or positive, even in many years ahead.

I believe this problem of the British Empire is a matter

of vital and primary necessity for that great structure which has been reared by generations of sacrifice and effort, and it is a sacred duty for all of us who live now to preserve it both for the present and future generations, and I feel that no stone can be left unturned, no step can be left untaken, which would tend to solidify and make more permanent what we are trustees and guardians of at the present time.

The most sacred duty which can be imposed upon the present generation is that every possible step should be taken to make our fellow-countrymen here and throughout the Empire understand the necessity of getting closer and closer together in an economic bond. I do not undervalue the bond of race, of sentiment, of language, all of which are tremendously powerful, but I am convinced that, unless you can tie to them the bond of mutual interest as well, they are more likely to get weaker than stronger in the future.

THE LAND QUESTION

THE position of Agriculture in this country, its importance to the nation and its value to the population are not new problems. These are questions which have exercised statesmen for centuries ; they have formed the subject of discussion throughout all time. They will, no doubt, continue to do so. All of us who have been engaged in politics, or the study of politics, know perfectly well that, during the time of the most ancient empires of the world—as in those now being discovered in Mesopotamia of 5000 years B.C.—the question of the land itself, cultivation, tenure, produce, was of vital importance. We are, therefore, not dealing with any new problem. Certainly, in this country we are dealing with a problem which has behind it previous experience and practice of many centuries ; and anybody who approaches it must approach it with a full knowledge of the past, if he wants to launch out for the future.

Land is the one commodity it is impossible to increase in quantity by human means. You may increase its productivity, but the acreage is fixed and beyond human control. If a man's land is neglected and not tilled, there is a waste you cannot make good. As there is a definite limitation in the area of land in every country, nations have always recognised that a country has certain rights regarding land which are not recognised regarding other things. This much having been premised, there are a number of fundamental considerations which require attention.

ECONOMIC CHANGES IN AGRICULTURE

Now there are changes—considerable economic changes—which have come over the traditional position of agriculture

in this country. English agriculture has grown up largely on what we may call a dual control, known as the landlord-and-tenant system. It has been the common form of agriculture in most countries. It has advantages and disadvantages, but, on the whole, in the past it has not worked altogether badly, for, in spite of the many objurgations, misrepresentations and criticisms which I see of the British farmer, I make bold to say that he is on the whole producing more crops per acre, a better yield per acre, a higher state of cultivation on his arable land, and probably, on the whole, better stock and better meat than any farmer on the continent of Europe. Landlord and tenant both have their functions, and each has tried to carry them out. But there is a disadvantage to the system, which must be noted ; it can only be successful if the landlord, who is a capitalist, is able and willing to supply the capital necessary for the maintenance and development of the land.

What is the change? The change, undoubtedly, is that there has been a growing tendency for the break-up of estates, for the sale of land and the impoverishment of estates. Most examiners of the present position of the landlord system of this country, including the present Viceroy-designate of India—the last Secretary of State for Agriculture ; including Lord Ernle, President of the Board of Agriculture in the Government of which I was a member ; including men like Sir Daniel Hall, or Professor Orwin of Oxford, and Lord Bledisloe, and all impartial examiners of the subject—all agree in the main in the proposition that there is a break-down in the old system. They agree that the owning of land simply as a rent collector is, in the present circumstances of high cost of maintenance and heavy taxation, uneconomic ; that the social and political prestige which used to go with the owning of great estates is rapidly disappearing, and is becoming daily of less importance ; and that the want of capital on the part of landlords to enable them to maintain their estates, both buildings and land, at the right pitch of efficiency, coupled with the want of security of the tenant farmer, and the consequent annual loss, creates an economic condition which must be harmful to the maintenance, and obviously still more harmful to the progress of agriculture.

In brief, the landlord is unable, even if willing, to supply the capital for improvement which the land requires, and often the position is that the tenant is unable because the land is not his. You then arrive at the checkmate in agriculture which you see all over the country. Buildings go back because there is nobody who is in a position to lend a hand, and there is nobody in a position to say a field wants draining or fencing. You get a position which is paralysing agriculture.

THE STEP-CHILD OF SUCCESSIVE GOVERNMENTS

Let me put another proposition ; it is obvious it is more beneficial to the country that its land should be used to the best economic advantage and that as many as can be reasonably employed shall be working thereon ; and also that the conditions of those who work the land, whether as farmers or labourers, should be made as profitable and as humane as possible. And it is the duty of the State to further in every possible sound manner the agricultural development of the country. Moreover, all nations whose governments have devoted themselves to this task have found it one of the best investments a country can make. And I would say that the Governments of this country have been singularly neglectful in the grasping of that fundamental fact ; that the investment of State money, State credit, in State assistance to agriculture is in any country one of the soundest investments in every respect a country can make, and that when it has been made in almost every country of the world which I know, it has produced a manifold return of yield.

English agriculture has been the step-child of every successive Government. The grants for research and education for its advance have been trivial and insufficient as compared with those of any other country. When people talk to me about the great efficiency of Danish farming, I look into it, and I say that the cheap efficient education which has been provided by the State for the Danish farmer or his child has done more for Danish farming than anything else—than any form of tenure or any form of credit which they have produced. Knowledge is power, and knowledge is

just as much power in the pursuit of agriculture as in the pursuit of any other human avocation. I do not want to enlarge too much on what are the immediate issues, but to deal with what are to my mind wide and important issues of agriculture, and I do want to point out that in other countries scientific research, the breeding of the best kind of plants to use on the land, improvements in stock, research in a hundred directions, has been the best business investment governments have made.

FIXITY OF TENURE

I assure you whatever system of tenure you adopt—tenant, freehold, cultivating tenure—whether the land is owned by the tenant or by the nation, the land will have to be tilled and cultivated by some one who understands what he is doing. It must depend on the energy, the intelligence and capacity of the individual whether the land is going to give a good crop or prove a “wash-out”, and not all the gentlemen from ideal County Councils, or those in professorial chairs, will be able to make the cow or the pig cross right or the manure go in the right way at the hands of the man who does not know. It is no earthly use coming to tell practical farmers, who after all know something about it, and spend as much time on it as they can—I wish I had more, because every time I go down to the farm I see something else that wants doing—it is no use telling us that it is not the man behind the plough, the man in the cattle shed, who himself is looking after the thing every day, who is the fundamentally important factor in agriculture.

What the farmers want is fixity—that they are to remain without disturbance. I do not think one idea will suit all parts of the country, all people and all classes. I find a great division among farmers themselves. Some farmers like to own their own land. I myself am an unrepentant believer that freeholders will be the best farmers. My view is not fashionable. Agricultural experts and others say that men owning farms are apt to become careless because they have nobody to go around and keep them up. The experience of the whole world has been that a man will do more

for his own soil than for the soil of anybody else. After all it has been the experience of the whole continent of Europe ; it has been the experience of Denmark, America and Ireland, where people now own farms through a land purchase system, and generally you will find it the experience of this country. I would not interfere with the freehold ownership of the farmer to-day, or the possibility of the farmer tenant to-day becoming the freeholder when he wanted to. He ought to have that option, and State credit to enable him to buy his land on reasonable terms. If the State is to be entitled to take over land on a fair net rental, why should not the farmer who is compelled to buy his farm be allowed to take his property on a valuation of a similar character ? He is going to take the same burdens. A gross rental includes management, repairs and landlord's expenses. When the landlord sells his property he has no longer got these expenses to bear.

“THE MAGIC OF PROPERTY”

I personally would like to encourage the purchase of freehold and the creation of freehold. I am a great believer in the “magic of property”, as Young put it in his wonderful writings on agriculture in the eighteenth century. Some people do not want to own farms, but prefer to be tenants. For them you may create tenures of shorter or longer purchase. I do not believe in abolishing every kind of landlord. Landlords are of extreme use to agriculture ; there are men who manage estates well and liberally, carry on experiments, and take a life interest in the agricultural activities and education of the people they live among. Why discourage and eliminate such people ? It would be a great waste of a valuable type of man. There are plenty, like myself, spending money on agriculture—not making a living out of it—to show how agriculture can be improved and new methods adopted.

To my mind there are a number of vital and fundamental questions which arise out of the Liberal land proposals which have been put forward by Mr. Lloyd George. In the first place, the Liberal policy, for it has received the benediction of the National Liberal Federation, postulates that whenever

the owner of any agricultural land desires to dispose of it, he shall in the first instance offer it to the County Agricultural Authority, who shall have the first option of acquiring it. In other words, if an estate is for sale, the County Authority will step in front of the sitting tenant. It is only when the authority does not want it that he will have a chance to buy his own farm. Well, personally, I regard that as entirely the wrong way around. I think the first person who ought to have the option of buying his farm, on the estate breaking up, is the sitting tenant. I say this is an extremely important point, for it is a point on which there will probably be a very direct conflict between two forms of opinion: the one form of opinion, to which I have myself always adhered, as I have often said, and from which I see no reason to change, that the creation of freeholds is the most desirable form of tenancy for this or any other country; and the other section, to whom freehold is anathema, who consider the freehold farmer the worst farmer in the world, who wish to see the land owned by local authorities, and managed by local authorities, and the farmer placed, to a large extent though not completely, in the position of remaining all his life in the state of a pupil being carefully guided by superior wisdom.

FREEHOLD FUNDAMENTAL

That is a very fundamental issue, an issue on which you will have to take your stand on one side or the other. It is in these proposals the one basic thing, and it is no use disguising that fact. I have not changed my view, and I do not intend to change my view, on this subject, whatever happens. To me the man on his own land is the freest man in the world—in fact he is the only free man in the world. Therefore, for the sake, not merely of agricultural progress, but for the sake of the stability of the nation, for the sake of the development of individual character, I attach the greatest value to freehold. I have always found that in countries where you have most freehold you have the most virile and independent race of people, because they have no favours to seek or masters to bow down to. That is why I passionately resist, and shall always resist, any attempt of any school of

thought that seems to want to cut out for ever the development of freehold in this country. As I have said, my view is that it is the sitting tenant, whose family has cultivated the soil, sometimes for generations, who is the most competent to deal with it. His homestead forms the history and tradition of his family sometimes for centuries, his market has been created around him by the goodwill of himself and his forefathers, on which he must live with his family, and I say that man has got almost a right, recognised and almost with the force of law already in this country.

Why, to-day on the sale of an estate by any reputable landlord, any decent gentleman, the sitting tenant is given the option of coming in. How can Liberals go through the counties preaching a new land campaign which begins with these words, "The sitting tenant is replaced by the local authority?" You know as well as I do that no farmer from Land's End to John o' Groat's will listen to that doctrine—and rightly so.

FAIR VALUATION FOR THE SITTING TENANT

That is one extremely important point, but the sitting tenant ought to be able to buy on the same terms as any public body. He ought to be able to buy at a fair agricultural valuation, and he ought to be supplied with the necessary credit on reasonable terms. I will take my chance against the best experts of this country—I am too late to see the results, but I would take a long bet if I could have another fifty years of life—on the side of those whose zeal, energy and heart and devotion is in the farm, which is the soil that belongs to them, and against those who are there solely by the courtesy and goodwill of other people. That is a very fundamental and crucial question, and I do not think that you will find it so very difficult as is generally imagined to obtain that amount of land which is required to develop our small holdings system, particularly in England. Of course, in Wales we are really small-holding counties, the average size of our farms, the acreage of what we to-day call the family farm, is really the economic unit of agriculture through the country, and you will not gain anything that I can see by

replacing one smallholder by another, but only cause great expense. But I am all in favour of the development of small holdings. You must make it easy, where land is to be bought, for it to be bought on reasonable terms. "Market price" has been the curse and breakdown of all our agricultural movements. The reason why the Small Holdings Act, 1908, has not been more widely extended, and the reason why the Ex-Soldiers' Settlements have been a burden to the Treasury and to the ratepayer, and in most cases ruinous to the ex-serviceman, is that the words "market price" were inserted in the Act by which they were established. The result is that in most cases—I am not saying in all—the price of land has been so excessive that it has been impossible to make it an economic proposition.

There is an alternative of two reasonable valuations: the death duty valuation, or that based on income tax assessment, Schedule "A". There would need to be no arbitration or long discussion on price on that basis. They are well ascertained—everybody knows them—and everybody knows the principles on which they are worked. They will give the landlord a fair price, and the farmer, or local authority, a fair deal.

THE COUNTY AGRICULTURAL AUTHORITY

Well, so much for the price. How about some other of these proposals on which we feel a certain amount of doubt and difficulty? They are more questions of machinery and detail than principle, but they are of importance. I first come to the County Agricultural Authority, which I mentioned earlier. It is proposed under the scheme to create for each county a new authority with that title. This authority would consist partly of nominees by the County Council, partly of nominees by the Minister of Agriculture, and partly of members directly elected to represent rural district councils and parish councils. I need not go into the very elaborate provisions—you will find them in the Green Book—by which it is endeavoured to secure a democratic and popularly elected body and representation for all classes of agriculture. The question we asked ourselves, and which requires answering, is this: Is it really a wise thing to endeavour

to start one more local authority in this country at the present time? Is it reasonable, in view of our heavy rates, large number of officials and complication of administration, once more to start off with big ambitious bodies, charged undoubtedly with serious objects, provided with no means of raising money; provided with no power of rating or the power of borrowing; whose functions are in the air; and who, apparently, have to buy all the land offered to them in the counties, with means which I do not know of and the source of which nobody has yet explained? They must be financed from somebody. You obviously cannot have two rate-levying authorities in one county, or two bodies borrowing money in the same county. They must be financed by the Treasury or the county, or both, and I cannot imagine either not insisting on a rate veto. On the question of finance, you cannot have a body so complex and unlimited committing the county to all kinds of financial burdens without landing the machine in a state of chaos and bankruptcy, and that I am certain the common sense of the people of this country will not tolerate.

I think myself that it would be much better to see whether you could not adapt your county Small Holdings Committees and Agricultural Committees, already in existence, increasing the power of co-optation to enable them if they like, or if they think desirable, to pay the expense of people attending those bodies—the complaint is being made that labourers and the smaller people cannot afford to attend the committees and consequently do not—and try to work it on the framework of existing institutions rather than create a new *ad hoc* body. It may not be so heroic, and it does not sound quite so grand, but I think it would be cheaper, and I think it would be much better.

THE COUNTY CULTIVATION OFFICER

Well, to this County Agricultural Authority is added another gentleman. He is a novelty to us, of whom we shall hear a great deal more as we go on. He is called the County Cultivation Officer. He is a man of very considerable importance—and I would define him as the M.O.H. for Agriculture. His duties would be to make and keep a survey of the land of the county and report upon it, to remark on its

cultivation, to give a general idea of its condition, and to make proposals for its improvement. He, I take it, would be the gentleman who would report on badly administered estates, and although, no doubt, he would not be the deciding factor, his report would count for a great deal. In fact, he would be a man of great importance in the county, and on his tact, his knowledge and his ability, a great deal of the result, beneficial or otherwise, of these proposals would be bound to rest. There is no doubt about that. It is evidently realised by those who frame these proposals. In fact, they consider him so important that they have created for him an extraordinary position. Although he would be paid, and apparently engaged, by the County Authority, he could not be dismissed except with the consent of the Minister of Agriculture. He would make reports, and the authority, whose servant he would be, would be under obligation to take really effective action upon them. This is rather like putting the cart in front of the horse, because as a rule when we ask people to make reports for us it is for us to judge whether they shall be put into effect. As it stands at present, he would not only make the report on which the authority would be obliged to act, but if the authority were supine in this, the Minister of Agriculture could order a local inquiry to be held, and in case of default act in lieu of the local authority. It reminds me a little of a mixture of Zinoviev and Emperor Cook, with a touch of Mussolini. I can understand an officer of this kind being of considerable value, and I can understand him doing a great deal of good work, but I do not think his work would be any worse if he were not given an extraordinary position, because I do not think a man can be at the same time servant and master. My view—and I think the right view—is that if you are going to have an authority either specially elected or partly elected, as at present, you must have confidence it will do its duties; that it is for the electors to see it does those duties; and that it is entirely contrary to the democratic principles on which this country has been governed for generations to override democratically elected assemblies. I feel that this man must be a servant of the authority. That is, I think, the right view, and if that view is not taken there is only one other thing to do—to make him directly a servant

of the Ministry and independent entirely of the local authority. That was done in the case of the Small Holdings Commissioners under the Small Holdings Act, 1908, and in some cases I think they proved very valuable. But it would be infinitely better to deal with that problem by an entire separation. That is a point, it may be, only of administration, but a point of considerable importance.

SECURITY FOR THE FARMER

Now there is one point, and a very fundamental point, in which a great deal of interest will be taken, and that is a point on which we are all agreed, and that is the question of security for the farmer.

I want to extend the Agricultural Holdings Act of 1920 to make security of tenure absolute, subject to good cultivation. That is the fundamental principle for which we have been asking for many years, and never yet quite reached. We also want—I think it is the essential part of any such scheme—to have rents fixed. I think it would be better to follow the Scotch precedent and have Land Courts rather than arbitration in different areas—fixed fair rents and simplified procedure rather than establishing a precedent. Differences in rent should be governed by the agricultural value of the land, and by good cultivation as affected by the necessity of paying a living wage. I think that is important, because one of the great difficulties of agricultural wages has been that where the farmer has been governed by a Wages Board he has been compelled to pay—not unreasonable wages as far as the labourer is concerned, far from it—but wages which have hampered him economically because the landlord has been compelled to make no reduction from the fixed charges at the other end. Agriculture from that point of view is one industry—owner, land cultivator, labourer, can only share out of a common pool, that is the profit on agriculture. At both ends there are fixed charges, but the farmer, the man in the middle, has fluctuating charges and may be squeezed out or not in a position to employ labour, which is unfortunately happening in a great many areas. Therefore rent must be conditioned on the same basis as the

farmer is subject to in order that the labourer should receive not only a living wage, but I should hope a considerably better wage, as we want to keep him on the land and increase his number.

WALES A SPECIAL CASE

Nobody knows better than the farmer what a vast subject this whole question of the land and agriculture is; how impossible it is to measure it, or even portions of it, in any one speech. Therefore the only further thing to which I shall refer is one which has caused some comment, and one on which I, as a member of the Welsh party, and representing a Welsh constituency, wish to give an explanation. It is certainly a matter which merits very careful consideration. I do not see that anybody can be a consistent Welsh nationalist and not see that the land is one of the fundamental things that Wales wants to get into its own control, if it is ever to have any form of Welsh self-government at all. It is not simply a question of Welsh sentiment; it is also a question of Welsh agriculture, and Welsh agriculture is a different thing from English. Welsh farms are smaller—with freehold tenure much more common; Welsh land is mostly grass, or under sheep, the proportion of arable land being comparably small, and the labour in cultivation relatively little; the question of the tied cottage comparatively rarely exists. The conditions as a whole are radically different, and it is that which led us very largely—consistent with the faith I have held in the many years, now getting on for fifteen, in which I have been a member of the Welsh party—to the view that the land would be, with education and licensing, one of the main pillars on which any system of Welsh national government would be based.

AGRICULTURE AND INDUSTRY

The country committed a great crime by the enclosure of the commons, and depriving the labourers of the rights of common pasturage and cultivation which would enable them to keep a hold on the land. In order to keep people on the land, and to get them back, you must create better and more

hopeful conditions than at present. The return on land, the profit to be made out of land, never has been very much. I do not know any country where farmers are millionaires. All over the world they are hard-working, and lead happy and very healthy lives. They are always in contact with nature, making things, producing things, and theirs is really a fascinating existence. But if you make conditions for the labourer they must be attractive. Give him rather more than he has had in the past. One could go on talking for many hours on the question of the future of agriculture, and the methods of agriculture. Some people think agriculture depends on the growing of corn. Some people tell you to look at Denmark, where they have corn growing which was turned to pasture because corn-growing did not pay. You cannot apply a tape measure to farming. Every field wants different handling. How can you apply one system of agriculture, not to a county, but to the whole of the country? We can never adapt the methods of other countries to our own. We have to learn from them and build up on what we have picked out what suits us, and that is the line on which British agriculture will have to proceed.

It is important ; those engaged in agriculture as a business should study these questions for themselves. But it is all for the good that people should begin to understand. Great Britain has got rather lop-sided during the last 100 years ; the industrial side has been developed too much, and the agricultural side not enough. The paths of difficulty we are in regarding trade and unemployment are undoubtedly due to the effect of what I might call this lop-sided development. All those who take a serious interest in the future must pay more and more attention to the importance of, and needs of agriculture. Governments cannot go on treating agriculture as a kind of step-child. You must build on the fundamental basis of tenure by the means of credit, better methods and marketing, and when you have combined these you will see in this country more prosperous and flourishing agriculture, and as it is more flourishing industries will benefit, because farmers and the soil are the basis of prosperity of all countries.

WHY I JOINED THE CONSERVATIVES

A FORTNIGHT ago I described in these columns my objections to the Land Policy which Mr. Lloyd George was endeavouring to saddle upon the Liberal Party. That policy, in spite of the great weight of argument and numbers against it amongst Liberals themselves, has been maintained by its author in its full force of subversive principle and inimical result. Shorn of all sham and pretence, of all vagueness and verbiage, that policy was then, remains, and, as far as Mr. Lloyd George can influence matters, will remain, unadulterated Socialism, whether it is gradual or complete in its application. In my address to my Association early this month, I made my standpoint quite clear. I understood that the worst features of Mr. Lloyd George's Land Policy had been modulated to an ineffective compromise, that another policy was under consideration; and, as far as that policy had been made apparent, I stated my profound objections to certain features of the compromise. But in the resolution which is to be considered by the Liberal Convention, an attempt is made to disguise the naked nationalisation of the Green Book in a vague and loose form of words, designed to deceive. Moreover, last Saturday, in his Cardiff speech, Mr. Lloyd George indicated that, whatever would happen, he proposed to go out the whole hog on the Green Book.

These happenings convinced me that, as one who has all along definitely taken a firm and convinced stand as an exponent of individualism as against Socialism, there was no honourable course to pursue but to break my lifelong association with the Liberal Party. I, therefore, decided to co-operate in future with that Party which adheres to the fundamental principle of individualism. The Lloyd George Land Policy was and is the nationalisation of agricultural

land. No striving after compromise ; no endeavour to entangle in masses of detail ; no plan of evasion, equivocation or vagueness, can disguise this fact. I have always believed, and I still believe, that the best interests of British agriculture can be promoted and will be promoted by the free man on his own land, rather than the controlled tenant on publicly owned land. In other words, I remain a convinced and sincere individualist.

My declaration of political faith throughout my public career has been based and established upon the principle underlying this statement. In Socialism I see to-day, as I always have seen, the degradation of the individual, the deterioration of the community, and the downfall of the State. The State has definite functions and a definite relation to society, and to the component parts of the society, whether they be industrial, commercial or agricultural. There are definite limits, well determined and easily defined, beyond which the application of State control or State intervention can do no good, but rather may achieve tremendous harm. In view of the evolution of the political theory to which parties or political leaders have recently subscribed, I have come to the conclusion that the Conservative Party, under its present direction, is the national anti-Socialist Party.

Looking round on the political and economic horizons, if both horizons are not the same seen from a different angle, I find that the problems which confront Great Britain are so diverse and serious that unless a united effort by all people of equal purpose, equal desires and equal determination is made, there is a considerable danger that Britain will be unable to maintain its proud position in the world of to-day. There are pressing and portentous problems which brook of no delay. The world has not yet stabilised its financial, economic or political position after the upheaval of the Great War. It is, therefore, all the more essential that in Europe particularly there should be some great stabilising force. Traditionally, historically and actually, Great Britain is the one power which can occupy that position. It is true that she has her own peculiar domestic problems, but compared with the disintegration and chaos on the Continent they seem insignificant.

In Great Britain itself the utmost concern is rightly felt about the industrial situation. Industry has been depressed, our export trade has been damaged, our unemployment returns have been abnormal, if not appalling. The whole problem comes back to one of cost of production. There is no short cut to reduction in the cost of production. To whatever extent the present industrial situation may be due to wartime experience and social experiments, one fact remains clear, and that is that before British industry can reclaim its pride of position all have to get down to basic considerations.

Mr. Baldwin has frequently appealed with great force for the consideration of our industrial problems in a new atmosphere. I am in entire agreement that what is required in industrial affairs is the application of a new psychology, and consequently the adoption of a new phraseology. For there are items in industry which no accountant can put into a balance-sheet, and which can never appear in a profit and loss account. Who can tell in pounds, shillings and pence the value of willing service? I have long been in sympathy with those earnest appeals of Mr. Baldwin, and, as far as I have been able, I have endeavoured to second and support his efforts. I now hope in co-operation to devote my time and energy to the creation of the new atmosphere which is so essential.

The creation of a new atmosphere alone will not produce fruitful results unless it is supported by practical measures and means. The country has confronting it to-day a coming crisis in the coal industry. There is no industry in which the creation of a new atmosphere is more essential to national prosperity. Mr. Baldwin's endeavours in the general field have during the last few days been strengthened in this particular direction by the wise and useful declaration by Lord Londonderry. Lord Londonderry has faced the facts, and thousands throughout the country are following his lead. There is a general desire both within the industry and without, whatever action official bodies from either side may take, or whatever views they may promulgate, to find a solution to the difficulties rather than carry on the controversy. In times of political serenity and industrial prosperity, controversy dialectics and debate may be the salt of the earth to many

people. But in times of financial stringency, economic restraint and political confusion, that salt loses its savour.

It is because there is useful national work which must be done ; it is because I find that the whole force of my political ideals is best represented to-day in the attitude and policy of the Conservative Party that I have taken the course I have. I come as a recruit eager to co-operate, willing to help, having no ambition more than to be of service to my country. I have shed political allegiance, dissolved political friendships, and invited and received personal rancour and recriminations, because I believe that it is by the co-operation of those who are seeking the same goal, who have the same fundamental political principles, and who are straining every sinew and nerve toward the achievement of the object, that Britain can be rescued from its present plight. The issue to-day, as it will continue to be in the future, is between those who believe in the free functioning of the individual conscience and individual action, by which Britain has achieved her position in the world, and those who believe that a dragooned and driven population in industry or agriculture, obeying the solemn orders of some high priest of Socialism, can achieve in some Utopian empire something better than has been gained in the British Empire. Precedent broadening into precedent is to be preferred to passing from confusion to chaos.

SOCIALISM : WHAT IT REALLY IS

I BEG to move to leave out from the word " That " to the end of the Question, and to add instead thereof the words :

" This House, believing that the abolition of private interest in the means of production and distribution would impoverish the people and aggravate existing evils, is unalterably opposed to any scheme of legislation which would deprive the State of the benefits of individual initiative, and, believing that far-reaching measures of social redress may be accomplished without overturning the present basis of society, is resolved to prosecute proposals which, by removing the evil effects of monopoly and waste, will conduce to the well-being of the people."

The hon. member for Colne Valley (Mr. Snowden), as I expected, delivered a carefully reasoned and very clever speech, moderate in tone, moderate in statement, oratorical in effect, which I cannot endeavour to rival. He presented a formidable indictment not of the capitalist system, but of civilisation—I might almost say of the Creator of the world. It is extremely easy to blame the capitalist system for ill-health, insufficiencies of life, feebleness of constitution, inequality of human ability, but will the hon. member tell the House that under Socialism there would be no syphilitic children in the world? Will he say that under a Socialist system there would be no drunkards in the world and no offspring of drunkards? Will he tell me that, whatever system you adopt, you can produce that equality of ability, that equality of efficiency, and that equality of physical and mental standards which he presupposes, and for the failure of which he attacks, not the capitalist system, but the industrial system?

The hon. member, much to my astonishment, dates the capitalist system from about a hundred years ago. The

capitalist system has been the system since the civilised world existed. Certainly it has. What was the system in this country in the time of Queen Elizabeth? What was the system in the time of William the Conqueror? What has been the system ever since we evolved from that tribal system to which the hon. member referred? What has been the course of evolution? The course of human civilisation has been from the tribal to the individualist system, and what the hon. member calls the great evolutionary force is the reaction, the return to a system from which the world has developed and evolved.

CAPITALISM NOT DUE TO MACHINERY

It was not machinery that developed the capitalist system. A bootmaker in the fifteenth century with one machine or one hammer in his hand was just as much a capitalist—and the hon. member knows it very well—as is the owner of a great factory to-day. The hon. member really must not use economic language in this extraordinarily vague way. The hon. member really ought to take a course of instruction from the hon. member for Seaham (Mr. Sidney Webb) next to him. He knows as well as I do that the shovel of an agricultural labourer, the tools of a fitter, the tools of a carpenter are capital, just as much capital in the economic sense—and no economist can deny it or ever has denied it—as the ownership or part ownership of a loom. The man who had a hand loom in the old days was a capitalist. The man who has a steam loom may be a different form of capitalist.

CO-OPERATORS AS CAPITALISTS

In Lancashire and Yorkshire hundreds and thousands working in those mills are to-day part owners of the steam looms as they were owners of the hand looms. What is the use of trying to confuse the issue by confusing the rich man with the capitalist, when there are millions of people in this country who are capitalists but who are not rich at all?

Every co-operator in your movement is a capitalist, for what is a share or a dividend in your co-operative movement

but capital? If you wish to socialise capital you must take the house of every working man who has saved up for it. If you mean that Socialism means robbing the rich, say so. That is a policy, but it is not Socialism.

RULE BY CIVIL SERVANTS

The hon. member for Colne Valley repudiated confiscation. He said: "I would not confiscate. I would compensate." He will take my shares, but he will pay for them. I do not mind. I would much sooner have State security than the uncertain security and anxiety of industrial work. But I should be extraordinarily sorry for the rest of the community who, for the services of men who understand industry, who have devoted their lives to it, and have an interest in it, are going to be left to a number of civil servants or theorists like the hon. member for Stirling (Mr. Johnston), who seconded the motion, to manage their business. The hon. member for East Rhondda (Lieut.-Col. Watts Morgan), who laughs, knows that as well as I do. He knows very well that he would rather have money in any business managed by me than in any business managed by a civil servant in Whitehall.

SOCIALISTS AS MEDICINE VENDORS

This is a very old controversy. I have been engaged in it now for very many years, and it always seems to me that Socialists are like the vendors of patent medicines. They describe the horrors of the disease, they paint a terrible picture, they deepen the shadows, they obscure the lights, they point out the miseries of our present system, and they forget everything about the amenities and improvements. They intensify misery and ignore happiness. They are much more eloquent as to these horrors than they are precise and specific as to the virtues of the remedies they offer; of these they say very little.

It is no use indicting the capitalist system. If the hon. member could persuade me that he had a system which would abolish these social sores and improve the lot of the people

of this country, a system that I could honestly believe would do any good, I would to-morrow be his most earnest recruit and his most faithful follower. I would admit facts. The fact that a few men in this country who are now rich would be worse off would not weigh with me. It would be a trifle compared with the social welfare of the country.

FREEDOM—OR A SOULLESS MACHINE

The hon. member who moved, and the hon. member who seconded the motion, have not addressed themselves to one single practical question, to one single practical issue in the great controversy which they have raised. And it is a great controversy, the controversy whether you are going to rely on the individual, on the individual freedom and individual enterprise of the people of this country, or whether, card-indexed, confined and crabbed, State-officialed and State-oppressed, we are to form part of a great machine by which the wings of enterprise would be clipped, the spur of private initiative would be taken away, and a bureaucratic, soulless machine would be substituted for the freedom of the people of the country.

OBSELETE THEORY OF CAPITALISM

You may indict the capitalist system, but we are entitled to indict and challenge the remedy you have proposed. You are quite entitled to point out that the world is imperfect. Some people are beautiful and some are not. Some people are clever and some people are stupid. As far as I can see, you want to level all your clever people to the level of the stupid. The whole theory of capitalism as expounded by some hon. members is entirely out of date. It does not exist in our modern industrial system. What exists in our modern industrial system is the captain of industry, the man of enterprise and of brains. He hires labour and he hires capital. He pays for one and he pays for the other. He is the man who creates. It is no good for the hon. member to interrupt me. I know much more about this than he does.

THE KEY TO THE PROBLEM

Mr. WILL THORNE: We all consume. That is what makes work.

Sir A. MOND: Obviously, if no one consumed, there would be no need for production. The real point of modern industrial enterprise is management, and that is really the key upon which the hon. gentleman did not touch. It is management. I do not care whether you have privately managed business or State-managed business. If it is badly managed, it will be a failure. What is the reward of management, enterprise and industry? It is just that accumulation of wealth to which the hon. member objects. If he likes to go round the world to-day he will find that the wealthy men are the men who started with very little, and by hard work, enormous energy and foresight, have built up great industries.

The hon. member made an observation which is perfectly true—that every workman should be made a capitalist. I quite agree. The hon. member said—and I gladly accept his challenge—what is the use of a workman saving a few hundred pounds, and competing with a great firm like Brunner, Mond & Co. What they want to do is to become shareholders in the company. Certainly. I can tell the hon. member that, only a short time ago, we discussed that question with men who have worked thirty or forty years in our business, and who would be very astonished to recognise themselves as wage slaves. They are proud of their record, and of their work, proud of their connection with the firm and proud of its prosperity and their share in it. If the House will allow me, I will elaborate that very point of enterprise and management, that very point of infinite capacity to which hon. members have referred. It seems to me that it is only possible under our present system, and I see no scope whatsoever for it under the system of Socialism.

STARTING A NEW ENTERPRISE

It is now nearly fifty years since two young men got to know each other in business. With the very little money

they had saved they decided to start a new enterprise. Their capital was very insufficient ; their optimism very great. They adopted a process entirely unknown in this country. They asked people who understood the industry to come into it, but they laughed at it. They fought and struggled. They founded that very concern to which the hon. member referred, which has given employment and looked after its workmen for something like fifty years, and that was the result of an enterprise which could never have been commenced under any Socialist system that I have ever known.

Who would have been prepared to take the risk which all the most experienced men in the industry said was an absurd risk to take ?

Those are points that I want the hon. member to deal with if he is dealing seriously with this question. This is only one instance. Those two men were my father and the late Sir John Brunner. They did not work eight hours a day, but thirty-six hours on end without stopping. They created work for themselves ; they created works where thousands of people have been employed. One of the difficulties which I feel with regard to Socialism is that I do not see how you can make any progress.

PROGRESS OF INDUSTRY DYNAMIC

The hon. member always seems to assume that the condition of industry is static. It is not ; it is dynamic. They talk of the division of the wealth of the world as if it were a fixed amount which wants to be divided up. It is not a fixed amount. I was saying the progress of industry is dynamic. That is to say, the wealth of the world is not a fixed sum which can be divided up among the inhabitants by which you determine their ratio of standard of life. It is a figure capable of increase and capable of decrease. Taken over the whole population, its increase is more fundamental, and its decrease is more detrimental than its division. What you want to do is to increase wealth, and I contend that the capitalist system is more likely to increase wealth, and therefore will be of more benefit to the whole community than any other system which has ever been devised.

" DEMOCRATIC CONTROL "

The hon. member has not explained whether he wants State Socialism or Guild Socialism or what form of Socialism. It is very fundamental. The hon. member was kind enough to refer to certain statements I made on housing when I was at the Office of Works, I believe. I do not for a moment go back on the statements I made, but I have been something like twenty-six years in business, and six years in the Government, and I can tell the hon. member that I am convinced from my experience as Minister and business man that it is impossible to carry on the industries of this country from a Government Department. Then how is he going to carry them on? He has not detailed to us any scheme.

I have heard of schemes of democratic control. That is a beautiful phrase, but the man who has to sell and buy and compete with the markets of the world and meet the keenest competition of American, German and French manufacturers, does not get much guidance if told that, in the future, the industries he is conducting are to be conducted under democratic control. Presumably there would be a sort of Soviet every afternoon to decide whether to sell francs, or whether the exchange is going up or down, or whether we should take higher or lower prices for our products, or what advertising schemes we should adopt. These are practical and not theoretical questions, and we are entitled to have an answer to them when we are asked to scrap a system which, after all, has brought the world somewhere, if not to the point which we want.

What is one of the real difficulties of this whole question of organising your industries nationally? One of your chief difficulties is magnitude. I have come deliberately to the conclusion that it is quite impossible for human beings to control any industry beyond a certain magnitude, and I say that after very careful study.

It is a very curious fact, told me by an American friend, that under Mr. Roosevelt's administration, when one of the American trusts was dissolved, the component parts of the Trust made more money in competition with each other than when united, simply because it had outgrown proper economic

management, and become so large that the company was like a Government Department, so complicated and so full of red tape that paralysis set in. That is one of the difficulties which has to be faced, and it is a difficulty to which I have not found the solution. I have given a good deal of thought to the question of whether it would be possible to organise industry on a national basis. When I was at the Office of Works I considered the matter very carefully, but I must confess honestly that I did not see any method ; and I do not believe that it is possible to organise an industry on any system of a national character which would give a higher efficiency.

What is the experience of the world as far as it has gone ? Let me take a few examples. I will not take Russia, because I do not think that Russia is altogether a fair example. I will take Germany, a very highly organised country with a very efficient Government service. What do we find ? Take the following from Consul-General Koenig's report, 1911 :

German mines. It is a well-known fact that the coal mines managed and worked by the Government do not pay as well as those in private hands.

Again :

The State coal mines of the Saar during a long period have paid considerably lower wages, and charged substantially higher prices for coal, than the Ruhr coal mines (in private hands). The available statistics show considerable losses on all the State mines, whilst the private mines, apart from smaller individual pits, show satisfactory balance sheets.

That is from the *Arbeitgeber-Zeitung*, April 6, 1919.

The Berlin correspondent of *The Times*, on February 3, 1920, reports as follows :

German railways. Many of the railway workshops were closed by the Government, which refused to conduct them at a loss any longer. According to Herr Oeser, Minister of Railways, the employees in the workshops have increased by 270 per cent, yet the output has steadily diminished.

I would say to my hon. friends that after the war the Germans had a Socialistic Government, a Socialistic majority.

Yet they have been careful not to introduce any of these schemes of Socialism which they advocated with the same vehemence, and for the same length of time as my hon. friend. I would venture to say that if he and his party came into office they would adopt exactly the same course.

EXPERIENCE IN FRANCE AND ITALY

Let me follow on with a few more examples of another kind. Let me take a very highly civilised country like France. Let me refer to the nationalised French railways. In France, the deficit on the State-managed railways rose from 35,000,000 francs in 1909 to 77,400,000 francs in 1911. Then take Italy. Italy had national railways, but they denationalised them because they found they could not make them pay. Although theoretically on paper all this ought not to happen, it does happen. After all, hon. members, although they like in this House, and sometimes on the platform, to be very theoretical, at bottom are practical.

EXAMPLES FROM HOUSING

I will tell them something on housing. When I was at the Ministry of Health, men engaged in the building industry would always work cheaper for a private contractor on a private job than they would ever work for a local authority. Until you can persuade everybody in this country, including the workmen, that they have got to work equally hard for the State or for a local authority as they do for a private individual or a private employer, you will have very little chance of improving the efficiency of a nationalised industry. I dare say that may come. It ought to come. People ought to work gladly and more willingly for less money and longer hours for the common good. Hon. members know that they do not.

A curious paralysing influence seems to come over everybody as soon as they begin to work for the State. One reason is that everybody has a cushy job. There is no profit and loss account. Nobody much cares how the money is being spent. What keeps this wretched private capitalistic

system going? I will tell you. If a private capitalistic business is badly managed, it goes into the bankruptcy court. What does that mean? It means you have a method by which inefficiency is automatically weeded out of your industrial system. You have a method by which efficiency is automatically rewarded. It may be a crude system, it may be an unscientific system, it may seem a harsh system, but it is the only system in the world which has been devised up to the present. Hon. members have not found any system to take its place. Civil Service examinations, which are the only substitute under State Socialism, are not going to replace the crude fact that people who cannot make profits in a business have to go under and make way for the people who can. That is the whole basis of our free competitive system. The hon. member says that the competitive system has disappeared. That is not true.

THE USES OF COMPETITION

You can trustify your industries as much as you like; there is no trust powerful enough in the world to-day to ignore the danger and the risk of able and new competition in all parts of the world.

Any business or industry to-day which neglects scientific progress and which neglects sound methods—I do not care how large its capital is or what its combinations are—in twenty years' time will be out of business, as certain as I am speaking in this House to-day. The pace is too keen; competition is too swift. Nobody can afford to sit idly by and draw dividends out of labour. The idea that you can make money out of labour is one of the greatest fallacies in the minds of a certain number of economists. Why does anybody want a capitalist? The capitalist system, as the hon. member said, was not created with the beginning of the world. People pay for capital because it is required. Nobody takes the risk of investing capital unless he sees some reward. The hon. member knows that as well as I do, and he ought to state it frankly.

THE FUNCTION OF CAPITAL

If I have to pay 10 per cent for capital, it means that I have a risky proposition. If I have to pay $2\frac{1}{2}$ per cent, it means that I have a safe proposition. The industrial capitalists are the only people in this country who, instead of putting money in their pocket, instead of spending it and doing nothing with it, instead of investing it in luxury, are investing it in industry and making either loss or profit out of it. Why should they be singled out as responsible for all the social ills that have come down to us through the centuries? It is most unfair and unreasonable. If these people did not go in for private enterprise, would there be no unemployment? I say that there would be more. The people of this country are not so foolish as to deny private enterprise the fruits of its labour. The hon. member who seconded the resolution (Mr. Johnston) postulated that Socialism meant the end of all international capital. How does he think trade comes to this country if you do not export capital?

Mr. JOHNSTON: I said that capital was exported for investment abroad. The question of the international exchange of commodities is obviously a different thing altogether.

Sir A. MOND: Does he not know that capital is a commodity, and can only be paid for in commodities, and that for every pound of capital you invest abroad you have to send some commodity? I wonder what he thinks capital is. Let me contrast that with what the hon. member for Colne Valley said. He said that he would compensate the owners of private capital. He said he would give the owners of industrial capital some form of State security, but he would not allow them to use it to develop industry in this country. Therefore the owners of that capital would have to take it abroad. The hon. member said he would pay me a few thousand pounds for what I have, but he would not allow me to use it in industry here. Obviously I must take it to some country where I can use it. What advantage that is going to be to the British working man passes my comprehension. I can understand confiscation, but I cannot understand what benefit they are to gain under the scheme propounded

by the hon. member for Colne Valley. If he gives me gilt-edged securities and I cannot use my capital in this country, I fail to see how the country and the working men would be better off.

The hon. member who seconded the motion said we could not distribute. I wonder whom he means by "we". The best brains in the country are meantime engaged upon it. He does not tell us where abler brains are to be found. He did not tell us how transport and distribution is to be improved by calling it democratic or socialistic or anything else. You ask any man who is engaged in industrial concerns in this or any other country, and you find he is ready to pay almost any salary to any one who is efficient, and we have to struggle along as best we can with our limitations. If hon. members say the coal mining industry is badly organised, possibly it is, but where have you the men who can organise it better? It is not the gentlemen who write articles in the *Statist* or any other newspaper. People who have never managed any enterprise themselves are the most facile critics of other people. It is easy to sit down and write on a piece of paper and be colossally efficient.

CO-OPERATIVE SOCIETIES

HON MEMBERS : What about the co-operative societies ?

Sir A. MOND : Those societies form one of the finest capitalist schemes in the world. A co-operative society is a huge capitalist system owned by a large number of small capitalists. Hon. members talk as if our big industries to-day were owned by handfuls of rich people. That is not the case. They are owned by tens of thousands of people, most of whom have very small amounts invested in them. When you talk about private capital, you don't talk about the few rich people. They don't much matter, anyway. They can go and make money anywhere else. Although you can nationalise capital, you cannot nationalise ability.

Mr. MCANTEE : You can buy it, and that is what you are doing.

Sir A. MOND : Hon members must get their minds clear. If they carried their proposals, they would abolish the co-

operative societies. The Wholesale Co-operative Society is one of the biggest distributors in the world, and they are just as much privately managed as Selfridge's Store.

A FREE PRESS

There is another point which I think is admitted by all Socialist writers. Socialism implies two necessary corollaries. One is that every consumer must consume a State-made article whether he likes it or not, because there will be nothing else to be got. Hon. members will have to take a State-produced newspaper, because it is the only one that will be available. There will be no freedom of the Press. Of course, if freedom of the Press means nothing to hon. members on the Labour benches, I have nothing more to say.

STATE-PATTERN DRESSES

Again, hon. members' wives will have to take the State pattern and dress after the State fashion. It will be so; perhaps hon. members will not object very much to it, but I should like the opinion on the subject of the wives of hon. members.

We have now got a larger number of women electors, and I put it to the Socialist members that, if the State can produce all commodities, obviously it will produce all the dresses in the country. You cannot get away from that, and we shall have to dress as the State tailor or as the State dressmaker directs. There will be no competition. Hon. members perhaps may not be aware that in France tobacco is a State monopoly, and it is worse than you get anywhere else. (An hon. member: "What about the matches?") The matches will not light, and all the eloquence of hon. members will never get them to light a pipe for anybody.

THE SECOND COROLLARY

But let us look at the thing in a more serious aspect. If under a State system you have no freedom in the State,

obviously there must be conscription of labour, and that carries with it limitation of population.

Mr. W. THORNE : Rubbish !

Sir A. MOND : Certainly. Have you thought it out ?

Mr. THORNE : Yes, I have thought it out. You are doing it now, many of your class ; but you cannot suppress human nature.

Sir A. MOND : I know that, as the hon. member says, you cannot suppress human nature, and that is why Socialism must end in failure. It is up against the elementary instincts of human nature, the free play of competition, that freedom of the individual to develop if he wants to, without repression. Men work best for themselves. The hon. member for West Ham is quite right, and nobody will fight more bitterly than hon. members on the Labour benches for some of these things from the first day on which, if ever, the Socialist machine is instituted.

I remember perfectly well a debate on this point at the time the National Health Insurance Act was before the House. The hon. member for Aberavon (Mr. Ramsay MacDonald) made a great speech against the panel system, and denounced the idea that British citizens should not have the right to go to any doctor they liked. This was State doctoring. Yet you are going to Socialise the whole world and everything. It is impossible. The whole thing is a delusion. Your ideal is to improve the world—so is ours ! Your ideal is to give the people better conditions and better houses—so is ours ! Your ideal is to make the conditions of life more humane—so is ours ! It is one ideal. We do not differ in ideals, though we differ as to methods. If those methods can be improved—and they can be improved—we shall certainly join hands.

NO DIFFERENCE IN IDEALS

The hon. member quite rightly said that it was uncontrolled industrialism—I do not use the word “ capitalism ”, because it is not the right word—it was uncontrolled industrialism which, in the early Victorian era, produced a capitalist anarchy, an inhuman anarchy. It had to be controlled by the State, and I quite agree that it may have to be controlled

further. What the hon. member has achieved in his thirty years of effort is not a small matter, although I do not agree with his economic theories any more than I did thirty years ago. I do not think that they would carry out what he wishes, but our sense of common humanity has been enormously quickened. He has certainly helped in that. The hon. member takes a gloomy view of the world, but let him look back a century, and ask himself what are the conditions under which people live to-day, and what were the conditions under which they lived then. Conditions which fill us to-day with dismay, and for which we are anxiously seeking remedies, would not a century ago be acknowledged as calling for attention.

An HON. MEMBER : They are worse to-day.

Sir A. MOND : No, they are not. Look at what has been done even during the last twenty years. Was there, a hundred years ago, a single sanatorium in this country for persons suffering from tubercular disease ?

An HON. MEMBER : There was no need for it.

Sir A. MOND : Yes, there was. I have been Minister of Health, and I can say with authority that the improvement in the health of the people has been continuous, and is growing day by day.

Mr JACK JONES : By collective enterprise.

Sir A. MOND : Of course, national life is a collective enterprise, and I want to see it developed, but it is different to say that export and import trade in cotton, coal, wool, and so on, is a collective enterprise, and can be managed as well nationally as individually. How can a Government deal with export trade ? It is a very difficult problem. We know that, in the case of international contracts, which are not a question of private enterprise, but of high State enterprise, diplomatic notes have to pass, and, whenever a contract is altered, questions are put in this House and feelings are aroused. The idea which one is considering in this system is one which has never yet been found adumbrated in any work that I have read, and I think I have read every one, from Karl Marx downwards, on this subject.

THE CHALLENGE GLADLY ACCEPTED

The hon. member has raised a large fundamental issue, and it is a challenge that we gladly accept. We are not frightened or alarmed by his indictment. We know the imperfections, and have made speeches like his ourselves. We know the imperfections of the system under which we work, and we also know its advantages. It is not enough for him and other hon. members to wax eloquent on the sore spots of our civilisation—a civilisation which has existed in this country now for many hundred years. What they have to prove is that they have something very much better, that they can deliver the goods.

You cannot ask an ancient nation, which has grown up on the basis of individual enterprise, of freedom, of capacity for self-development, a nation which is the most individualistic nation in the world—it is more difficult to get our people to co-operate than any others in the world—where every man is proud and glad to strive, whether in the field of business, in the field of politics, or in the field of sport—you cannot ask these people to put their heads under a yoke, to go into a state of slavery—for Socialism to my mind is no better—and lead a dull, monotonous existence in which there is no sparkle and no life.

That is what we are being invited to do.

Show us, at any rate, what we are going to be given in return for this sacrifice before we surrender our liberties so hardly won to a tyranny no better than any tyranny we have passed through in the past. Show us, at any rate, that happiness will be greater. I say that you cannot do it. I say that it cannot be done, and I invite you to abandon an illusion that is stopping fruitful progress.

A WILL O' THE WISP

This discussion has now been proceeding for fifty years. Wherever this policy had been adopted it has been abandoned again. After the French Revolution, you had Socialism. In China, you had Socialism for 150 years. (Hon. Member: "No".) Does the hon. member know anything about the

history of China? Has he ever studied the extraordinary Socialistic experiment made many centuries ago? I do not suppose he ever heard of it. He had better study the question before he interrupts me. I have studied it. Apparently he has not. Let us give up chasing this will-o'-the-wisp. The word "gradual" which the hon. member introduced cleverly will not delude us. "Gradual" sounds very pacifying. The hon. member made a speech of a pacifying character. He knows as well as I do that at the last election nothing was resented more by most Labour candidates than to be accused of being not Labour but Socialist. Hon. members did not say it was a Socialist party.

Mr. LAWSON: We did.

Lieut.-Col. WATTS-MORGAN: Name a single place

Sir A. MOND: I know of my own knowledge in my own constituency and other constituencies around. (Hon. Members: "Name them".) I will take my own constituency and others around me. The hon. member knows the constituencies around mine as well as I do. I have said that the Labour Party had no right to be called a Labour party. It was a Socialist party. That was always repudiated. The hon. member at the next election can call himself a Socialist candidate. I am stating what is common knowledge. Hon. members are not called a Socialist party. They are called a Labour Party. (Hon. Members: "We are the Labour Party. It is the same thing".) It is not the same thing. The hon. member for Colne Valley knows it perfectly well, and so do other hon. members, or they would not get so excited.

THE MASK OFF AT LAST

I am extremely glad the mask is off at last. It is a clean issue between Individualism and Socialism, a clean issue of private ownership against national ownership, a clean issue as to the right of the individual to the reward of his labour and his enterprise.

I understand now there is no doubt that this motion will go to division. (An Hon. Member: "We are not afraid of it".) Neither are we, if there is only time enough to debate it. We welcome a division on all sides. We have a clean

issue, and I invite all those who believe in the future order of this country, all those who believe in the freedom of the people to develop along their own lines and in their own way; I invite all who do not wish to see us reduced into a machine-made product, and to a dead level of mediocrity; I invite all who do not wish to see the future progress of this country arrested, but who wish to see co-operation between Labour and Capital, co-operation and partnership between those who produce and not between people who do not care and who do not know anything about industry, to support my Amendment. That is the programme to which I invite their support. I hope that when the division comes there will be even some hon. members on the benches above the gangway on this side of the House who will reconsider their position. I am speaking in all seriousness. There are friends of mine on those benches who are no more Socialists than I am, who are no more believers in Socialism than I am, and I invite them to think twice or three times before they commit themselves to a policy which is as fatal to the best interests of the class which they represent as it is to the interests of the community as a whole.

WHY SOCIALISM MUST FAIL

THE question whether we should reorganise our modern system of civilisation on an entirely different basis is at present the subject of much discussion. The House of Commons has spent two days in debating the Socialist resolution of Mr. Snowden which had the full support of the Labour Party. Socialism has been discussed in endless articles and expounded at many meetings throughout the country.

It is of the utmost importance that the people of this country should not regard this question as a small one of merely academic interest. It is quite true that there is nothing new in the discussion, and there has been very little that is novel in either the literature or the speeches on the subject for the last four years. I remember taking part in debates on this subject when I was a young undergraduate, and both the arguments in defence of capital and for the substitution of a Socialist State were very much what they are to-day.

At that time Socialism was looked on as a fad of the Fabian Society and of a few serious enthusiasts, but it had no great political party in the State backing it. To-day Socialism has become the official policy of the Labour Party, with its considerable representation in the House of Commons and large voting strength in the country.

Many people seem to regard it as an inevitable occurrence that at some time the Labour Party will have to provide an alternative government. The question, therefore, whether such an alternative government would endeavour to put into practice, as they are bound to do, the principles they have advocated in opposition, gives this whole question a national importance which it has never possessed before.

Now, it is very important that people should clearly make up their minds as to what is the meaning of Socialism.

ACHIEVEMENTS OF EXISTING SYSTEM

There are multitudes of people in the country who see in our present organisation of society very many evils. They contrast mere wealth and luxury on one hand with poverty and suffering on the other. They ignore the enormous progress and general prosperity in the life of the population during the last century. They fail to realise the extraordinary achievement of the organisation of our present system which has enabled the population of this country to be almost quadrupled in less than one hundred years.

The fact that it has been possible for this population, in normal times, to find a means of livelihood and subsistence, that it is fed and clothed, is educated, is tended in illness and maintained in old age, appears to them as something not remarkable but quite ordinary.

During this change—the change from agricultural to industrial conditions—many defects have become apparent, and many dark spots can be seen in our social structure. Conscious of these deficiencies, Socialists are disposed to destroy the machine which has proved able to achieve so much in order to substitute for it something which in most minds is merely a pious and vague aspiration towards better things.

Thus it is that there are very many who have no real belief in a Socialist organisation and merely desire to improve social conditions, who sympathise with, and even call themselves Socialists, without even taking the trouble, either to go into the question as to what the Socialist system is, how its operation would affect the welfare of the community, or whether it could be put into practical operation at all.

FUNDAMENTAL PRINCIPLE OF SOCIALISM

The fundamental principle on which the Socialist doctrine is based is the abolition of all forms of private property and the substitution of collective ownership, in one form or

another ; the cessation of all competition, as we know it, and of all private enterprise in every form, and the destruction of what is called " the Capitalist System " It is merely another method of expressing the refusal to allow those who have surplus wealth, acquired either by their own endeavour or the endeavours of those who went before them, to assist in the upbuilding of the country.

There is, therefore, this basic difference between the conception of Socialism and the conception of individualism, and this is the true contrast : whereas the individualist believes in the right of every citizen of the State to use his abilities in the way he likes and the way he chooses, to his best advantage and to the advantage of himself and his family, in which, of course, is involved the element of competition, the element of saving, and the element of enterprise with the stimulus to create wealth for his own use ; the Socialist opposes to this a collective production and a collective ownership.

SOCIALIST METHODS

The Socialist is at some doubt himself as to the method by which he is to bring this about. The older school of Socialists were undoubtedly State Socialists. They believed in nationalising every form of production, manufacture, transportation, commerce, and exchange of all kinds, and of organising these under State management. The whole country was to be run by the Government and through the Government for the benefit of all. Great Government departments were to take the place of the many hundreds of private enterprises now directed by people who have an intimate knowledge and interest in the prosperity of their businesses. The dead hand of bureaucracy and the sterility of Government administration were to replace the inventiveness, ingenuity and endeavour of those now in charge of great industries. The differences between rich and poor would disappear, as they undoubtedly would, because, under any such scheme, production would fail so much, and the hampering of enterprise would so diminish the amount of wealth produced, that everybody would be rendered poor, and even the poor would become poorer than they are to-day.

FALLACY OF THE GREAT FUND

One of the fallacies that haunt the minds of most of those advocating Socialism is that there is some great fund in existence, obtained from excessive profits made by capitalists, which could be seized by the community and divided among those who are less fortunate in acquiring wealth than others, and which would produce a general equalisation by which the working man would be much benefited. As a matter of actual fact this great sum does not exist.

There is nothing more difficult than to retain a sense of proportion in this world. I recently heard one of the extreme Labour Members in the House of Commons declaim against the great waste of national wealth and the luxury that was displayed at Ascot, Goodwood, Cowes, and other places where fashionable people congregate. He, like many others, was impressed by the contrast of this luxury with the poverty of the East End of London, which hits the eye and strikes the imagination. If he had made a calculation of the total sum which all this luxury amounted to, with the sum per head which would be available from it, he would discover the extraordinarily small amount which he could have for the people in whom he was interested.

AVERAGE REMUNERATION OF CAPITAL

Eminent economists calculated that the average rate of remuneration of capital in industrial enterprises taken over a considerable period would not amount to more than between 4 and 6 per cent on the capital invested. It is misleading to take out odd instances of large dividends declared on the ordinary share capital of exceptionally prosperous concerns, as is so commonly done by those who decry the "Capitalist System". It will be found, probably, that in such businesses the ordinary share capital represents a comparatively small percentage of the actual capital utilised for the business. Capital at fixed charges—that is to say, debenture and preference shares, and reserve funds returning no interest, have to be considered in calculating the average profit; and in taking industries as a whole you must not merely take

those which are successful and make profits, but also those which fail and make losses.

TRIFLING MARGIN OF PROFIT

Now, Mr. Philip Snowden and others in recent speeches have declared the policy which they advocate is not one of confiscation but of buying out those capitalists by offering them in exchange, I suppose at a fair price, Government securities ; the shareholders of modern industrial concerns would become the owners of Government gilt-edged stock. Instead of an owner or shareholder depending on the greater fluctuation and doubtful return of business enterprises, he would enjoy security by having the whole community to rely on for the payment of the interest on his money.

If this stock were issued on the basis of, say, 5 per cent, it is obvious, from what I have stated before, that even if the wealth production of the country remained the same and did not diminish by the elimination of those most interested in the success of business, there would be a very trifling margin, if any, to distribute among those who are wrongly looked on as the *sole* producers of wealth—namely, the workmen.

REDUCED PRODUCTION UNDER SOCIALISM

But would the wealth production remain the same ?

It is quite true that there has been a great change in our industrial system. It is quite true that most industries to-day are in the form of large limited companies, embracing many thousands of shareholders, the bulk of whom have no knowledge of business, and have no direct responsibility for the management of the business. But they have an interest, and a very fundamental one, in receiving a return for their money, and they have the power—the ultimate resort if the business is badly managed—of changing the management. There is the test of a yearly profit and loss account as to the efficiency of the management ; in fact, it is the only test which we have been able to devise.

What will become of this test under the Socialist industry ?

EXAMPLE OF GOVERNMENT DEPARTMENTS

Government departments, unless perhaps we except the Post Office, are not revenue-earning concerns. The people charged with their administration have only to spend the money the nation finds for them. They have not to earn any. The Post Office itself is not run on the lines of a business concern. Would it be possible to create a State organisation of such vast dimensions, and subject to all the difficulties inherent in State management, on similar lines to those described ?

From my experience, both in business and as a minister of the Crown, I venture to say that it would be found in practice perfectly impossible for any Government to conduct State-managed enterprises with the same efficiency as private enterprises. The whole spirit would be different. The State-managed industry would be exposed to almost daily criticism in the House of Commons. Every transaction would be subject to pressure of public opinion both as regards quality and prices. The very size and magnitude of the organisation would render it unworkable under such conditions. Every man who conducts great businesses knows the difficulties experienced in maintaining the initiative and decision necessary for the successful conduct of large concerns.

CONDUCT OF EXPORT TRADE

Private business enterprise is largely based on an enormous export trade not merely as manufacturers, but also as merchants, shippers and bankers. An extensive knowledge of all countries and their conditions is required, as well as the ability to make quick and sound decisions, for we are in competition with the whole world. How is this to be achieved ? How are the export trades of this country to be carried on ? You cannot wait until endless minutes have been written and initialed and passed from one department to another before a transaction takes place. By that time the active and energetic business man of other countries, hampered by no such restrictive conditions, would have taken all the business from us.

Socialists are very fond of saying that these difficulties would not take place, that they would carry on the business of this country by the same managements and staffs who conduct them to-day. They have realised somewhat late that success in business depends on management. The best managed businesses on the whole are those which provide the greatest personal financial interest to those who manage them and the keenest incentive both for development and success. This personal interest is going to be entirely eliminated. Further, if we manage a business we are to receive the same remuneration for doing so, but on no account are we to be allowed to put our money into the business.

Far from endeavouring to divorce those who are producing from the biggest possible interest in the success of their concern, our aim should be to encourage all those who are interested to become capitalists in the business in which they are engaged, and in fact those who are wise as owners of businesses should take every possible step to induce, not merely their staff, but their workmen to become co-owners of the enterprise.

COMPETITION CREATES BUSINESS EXPERTS

But there is another point which is overlooked. How were the successful business men of to-day created? They were created by the play of competition, by the fact that they knew that the result of their work, whatever it might be, would accrue to them. Many of the greatest industrial captains and richest men to-day are not men who were born with big fortunes, but are men who have created their fortunes. They have not been satisfied to work a certain limited number of hours for a fixed amount of money, but have spared no trouble or labour. They have worked all hours of the day and night. They have never ceased to concentrate their thoughts and energies on the enterprise they were building up.

Is it possible to obtain the services of such men to carry on for the good of the community instead of for their own interest? Human psychology will have to alter a great deal before this will be the case. What is to happen when these men disappear, as they must do in time? What is the

machinery which is to create the new captains required to direct industry and commerce? Competition is the breath and soul of human endeavour, whether in business, in sport, in politics, or in any other form of human activity. It is Nature's way of proving who is the best man. It may be a crude way, it may sometimes be a cruel way. It develops the strong and capable at the expense of the weak and inefficient, but it is the only way which exists in order to bring out that which is best. I can think of no business, either State managed or collectively managed, in which there is an alternative method by which ability would prove itself. The system of promotion by seniority is at present in practice in institutions like armies and navies and Government offices. It is not a good system, although it may be the only one for any State form of organisation, but to a business organisation it is absolutely fatal.

COMPETITION ELIMINATES INCAPACITY

A well-managed business succeeds, the badly-managed business fails, and thus the industrial efficiency of the country is automatically maintained, not at the expense of the community as a whole, but at the expense of individuals and of those who are inefficient. How is this same test of efficiency to be maintained? What other test is to be substituted in the Socialist State?

It is obvious, whatever form of organisation you have, the wealth of a country, however distributed, must be the test of economic prosperity. The greater the wealth the greater the prosperity. Or, as I have pointed out before, the distribution of wealth, unequal as it seems, is more so in appearance than in reality. The less efficiently the industries of a country are conducted the fewer commodities there are produced, and the less there can be for everybody. The working classes will be no better off, but worse off than they are to-day, unless the standard of industrial efficiency is not merely maintained, but improved.

That is why Socialism must fail in the essential object it wishes to achieve, and would not improve the remuneration or the standard of life of the great mass of the population.

ABOLITION OF THE RICH

Of course, there are many to whom the mere abolition of the rich would seem to afford some satisfaction, quite apart from other questions. They think that if everybody were poor everybody would be much happier ; but that cannot be the view of any one who really cares for the future of this country. We want to make everybody better off, not a few people worse off. We want to enhance the general standard of life, not to depress it, and unless a change is clearly demonstrated as bringing this about it should be opposed by all right-thinking men and women in this country.

Socialists look upon those whom they are pleased to call " Capitalists " as devoid of all human sympathy, as people engaged in enriching themselves without any regard to humanity. It never seems to occur to them that all are human beings with fundamentally the same feelings, and that the great and vital questions of life which make up human happiness, such as health, love, family affection, the desire to stand well with their fellow-men and to rejoice in the general happiness of other people, affect us all equally ; there is a much larger field of contact and a much greater bond of collective humanity than the purely economic one.

As a matter of fact it is impossible in our modern organisation for any individual to create without the rest of the community benefiting. If the amount which any one individual has amassed in creating any great new enterprise was contrasted with the amount of wealth which has been enjoyed by all the others who have been connected with that enterprise for a number of years, I think it can be said without challenge that it would form a very small proportion of the total wealth created.

GUILD SOCIALISM

I have not entered into what I might call the varieties of Socialism which are fashionable to-day. I want, however, to guard myself against the criticism that State Socialism can be avoided by the substitution of so-called " Guild Socialism ".

The Guild Socialist idea sprang up as the impracticability of State Socialism has become more and more realised by Socialists themselves. Guild Socialism is an attempt to evade the difficulties of the whole Socialist theory. It endeavours to confine the produce of each industry to those engaged in the industry, and not to those who conduct it. The industries are to be conducted not for the national benefit, but for the more limited benefit of those more directly interested in one particular branch. Apparently all Guild Socialism proposes to do is to eliminate private capital, substitute for it the capital of the tax-payer, and then leave it to the workmen who are engaged in the industry to make what profit they can out of the transaction. The general community then would take all the risk and the workmen of the industries would take all the profits—if there were any. How the management would either be formed or controlled is one of the immediate points of difficulty that would arise. Whether they would have a kind of Soviet Council in each works endeavouring to do the work of highly skilled experts, or whether the selection of experts would be left to people who understood nothing about the qualifications necessary, would be a very important question.

WORSE THAN STATE SOCIALISM

To my mind Guild Socialism would be a great deal worse than State Socialism, bad and impossible as that would be. All the ideal talk about producing for use and not for profit would immediately disappear. It is a well-known fact that where workmen have any interest in and control over profits, not unnaturally the human tendency is to get the biggest price for their commodities and the largest possible profits they can obtain. The best that can be said of Guild Socialism is that it is a form of profit-sharing which could be instituted now without any disruptive effect on our commercial system. The real trouble, which seems to be so continually overlooked, is the difficulty in working out a profit-sharing scheme when there are no profits, for it is very much more difficult to know what to do when there are losses than when there are profits.

CAMOUFLAGE OF "GRADUALISM"

At the commencement of this article I pointed out the necessity for clear thinking on what Socialism really stands for and means. All the discussion which is going on to-day among Socialists themselves emphasises this still more clearly. We are now informed that any such change must be made "gradually", and much virtue is attached to that word. The timid and stable elements of the electorate who are not really Socialists, who would not tolerate Socialism, and who would refuse to exist in a State which would have to be based on the restriction of the individual liberty which we have taken centuries to obtain, are to be beguiled into swallowing this nauseous poison in small doses.

I am never much impressed by the argument of the thin end of the wedge. The question as to whether or not certain definite national activities could be better carried on by the community than by individuals is always open to discussion. In undertakings like the Post Office you sacrifice business efficiency for the wider feeling of personal security in the treatment of postal services and recognise it as a monopoly. But the camouflage of "Gradualism" cannot obscure the fundamental fallacy of the Socialist theory of the organisation of humanity. Marxists endeavoured to put these theories into practice in Russia. There they did not succeed in the complete system of nationalisation. The more they applied their theory the more chaos was created, and their short and imperfect experiment is already generally recognised as a failure even in that backward country, and a return to the old condemned system of private enterprise is now clearly taking place.

NECESSITY OF RESISTANCE

It is really impossible to understand why, with that and a hundred other examples staring us in the face, the people of this country should now be invited, as a measure of progress, to make similar experiments. That such experiments may actually be tried, grotesque as it may seem, is by no means impossible if the people of this country do not demonstrate

once and for all that they will have none of them. This is not the time nor is this the country to stand the shock of such crude and mistaken economic surgery. The complex structure of modern commerce and industry is not an organism with whose functions you can readily interfere without fatal results. More primitive countries, like more primitive biological structures, recover more quickly from injuries of this kind. Our difficulties are great enough, and it will take all the resource, courage and confidence which we possess to bring us back to the path of prosperity. If to the ordinary cares and anxieties of those in charge and directing the great commercial activities of this nation is added the menace of Socialism, capital levy and suggestions of that nature, the burden may prove too heavy to bear. The discouragement of the leaders will bring sad havoc to those many millions in the ranks of the industrial army whose daily bread is to-day dependent on their wise and courageous generalship.

Depose knowledge, instal ignorance, abandon experience, replace it by theory, discourage the individual, encourage departmentalism, and the masses of this happy land would be plunged into poverty and destitution such as it has not seen for many generations.

THE END

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